LITTELL'S LIVING AGE.—No. 201.—18 MARCH, 1848.

TO THE PUBLIC.

The subject of the ether discovery has now been before the public for more than a year; pamphlets have been published, and evidence in various shapes exhibited, by those who claim to be the discoverers; and it may now fairly be presumed that all the material evidence bearing upon the question has been produced. The trustees of the Massachusetts General Hospital, a board of twelve gentlemen of the highest consideration in the community, have made a thorough investigation of the question, through their committee, and published a unanimous report. This report has been unanimously accepted by the corporation. These gentlemen have had great advantages, independent of their personal characters and qualities, for conducting a thorough and impartial inquiry. They are on the spot where the discovery was made, have had personal interviews with the two claimants, (Drs. Jackson and Morton,) and with the most important witnesses. They are none of them physicians, or engaged in similar pursuits with either of the claimants; and whatever influences may attend previous scientific distinction and personal acquaintance, were against the claimant in whose favor they have given their decision.

One of the claimants, Dr. Jackson, has refused to submit his cause to any tribunal whatever; so that we can hardly hope that a decision will be obtained, carrying with it more weight than that which we now have before us.

Under these circumstances, a number of persons, satisfied of Dr. Morton's right to the title of discoverer, and desirous of having all the material facts, arguments, and documents, collected and put into a single pamphlet, in an orderly manner, and under some degree of personal responsibility, have requested me to perform this duty. I undertake it as a professional service, and I desire to have it so understood by the public. I am responsible so far as this: that I feel bound to thoroughness and accuracy, and to introduce no evidence that I do not believe to be worthy of credit.

Richard H. Dana, Jr.

30 *Court St., Feb.* 22, 1848.

CHAPTER I.

PREVIOUS KNOWLEDGE ON THIS SUBJECT—NATURE OF THE DISCOVERY.

In order to an understanding of the question at issue, it is necessary to direct our attention to two points. 1st. What was known on the subject, before this discovery was made? 2d. What is the precise thing that makes this a discovery?

Unless we start with a clear idea on these two points, we can examine the evidence and reasonings to very little purpose.

I. What was known before this discovery?

In the specification accompanying the first patent, signed by both Dr. Jackson and Dr. Morton, is this passage—

> It has been known that the vapors of some, if not all, of these chemical distillations, particularly those of sulphuric ether, when breathed or introduced into the lungs of an animal, have produced a peculiar effect upon its nervous system; one which has been supposed to be analogous to what is usually termed intoxication. It has never (to our knowledge) been known until our discovery, that the inhalation of such vapors, (particularly those of sulphuric ether,) would produce insensibility to pain, or such a state of quiet of nervous action as to render a person or animal incapable to a great extent, if not entirely, of experiencing pain while under the action of the knife or other instrument of operation of a surgeon, calculated to produce pain. This is our discovery.

In other words, both the contending parties admit that it was known that the inhaling of ether vapors would produce "a peculiar effect," but deny that it was known that this "peculiar effect" amounted to that extraordinary degree of insensibility—that death of all sensibility—which the experiments in Boston demonstrated.

Dr. J. C. Warren, in his work on Etherization, (Boston, 1848,) says, (p. 2,) "The general properties of ether have been known for more than a century, and the effect of its inhalation, in producing exhilaration and insensibility, has been understood for many years, not only by the scientific, but by young men in colleges and schools, and in the shop of the apothecary, who have frequently employed it for these purposes."

Dr. Beddoes, in his work on Factitious Airs, published at Bristol in 1795–6, gives several communications from Dr. Pearson, on the inhalation of ether.

Sir Humphrey Davy, who had experimented in this direction, says: "As nitrous oxide, in its extensive operation, appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

Dr. C. T. Jackson, in the pamphlet published under his sanction by Dr. M. Gay, in 1847, says, that "he was early impressed with the remarks of Davy concerning the remedial agency of gaseous matters."

Dr. Jackson again, in the same pamphlet, p. 5, distinctly admits that "*insensibility* produced by ether," was known to physiologists, and says the question was, whether this insensibility was of such

a character, and governed by such laws as to be safe and useful under severe surgical operations. His language is: "It yet remained to be ascertained whether this unconsciousness was so perfect that, during its continuance, no pain would be produced by wounding instruments."—Ib., p. 10.

The uses to which the inhalation of ether had been put, are various. Pereira's Mat. Med., (London, 1839,) a work with which Dr. Jackson was undoubtedly acquainted, says, "The vapor of ether is inhaled in spasmodic asthma, chronic catarrh, and dyspepsia, whooping-cough; and to *relieve the effects caused by the accidental inhalation of chlorine gas.*"

Mr. James T. Hodge, a geologist and chemist of rising reputation, known to Dr. Jackson, inhaled sulphuric ether, as an antidote to chlorine gas, in 1844, on the advice of Prof. Ellett, who treated it simply as the established prescription.

R. H. Dana, Jr., Esq.

Dear Sir,—In the summer of 1844 I was so unfortunate as to inhale a strong draught of chlorine at my laboratory in N. York, by which I was rendered speechless for several hours. While in this condition, Prof. Ellett, of the chemical department in the college at Columbia, S. C., happening to call upon me, advised my inhaling sulphuric ether as an antidote, which I did with great relief, though not to the point of producing insensibility.

Yours truly, JAMES T. HODGE.

Boston, February 8, 1848.

Dr. Warren, on Etherization, (pp. 2, 85, 86, and 87,) shows that the inhaling of ether has been in repute, in Europe and America, for more than fifty years, for relief in cases of pains, inflammations, and spasms. See, also, British and Foreign Review, April, 1847.

Dr. Warren, again, (p. 86,) says, "Monsieur Ducos, in Paris, performed some remarkable experiments with ether on animals early in the last year; an account of which is given in the Paris Med. Gazette of March, 1846. In these experiments were exhibited most of the phenomena which have since been witnessed in the human body."

H. Chambert's work, entitled, "Des Effets Physiologiques et Thérapeutiques des Éthers," recently published at Paris, describes the experiments of M. Dauriol, in 1832, to produce insensibility, by inhalation, from a sponge, dipped in warm water, which had previously been three times saturated in "le suc de la jusquiame, du datura stramonium, de la petite ciqouë ou de la laitue vireuse," and dried after each saturation in the sun. He says the patients were immediately thrown into a sleep, more or less profound, according to their nervous sensibility, and describes them as "entièrement impassible pendent l'opération qu'on lui fait subir."

Robert Collyer tried experiments in Boston, in 1843, to produce insensibility by the inhalation of the vapors of narcotics and stimulants, and published a work on the subject.

In the autumn of 1844, Dr. Horace Wells of Hartford, Conn., came to Boston and performed an experiment with the direct object of producing, by inhalation, such a degree of insensibility, as to be useful under painful dental operations. He used the nitrous oxide gas, pursuant to the hint of Sir H. Davy.

This experiment was made before a large company, Dr. Morton being present; and, as the experiment was an entire failure, it subjected Dr. Wells to a good deal of ridicule, as well as Dr. Morton, who, being then a student in the Medical College, had introduced Dr. W. to several members. This experiment and its object were not only known to Dr. Warren and the medical class, but, then or soon after, to Dr. C. T. Jackson, and to Dr. Hayward, and other physicians; and, in fact, was matter of considerable notoriety. It was alluded to in the conversation between Dr. Morton and Mr. Metcalf in the early summer of 1846, hereafter referred to.

We think, then, it may be stated, in justice to all parties, that the following things were known before the discovery in question, viz.:

1. That the inhalation of ether would produce insensibility.

2. The *idea* of producing insensibility, by inhalation, for the prevention or mitigation of pain in surgical operations, had been presented on high authority.

3. Experiments had been made for this purpose, but not satisfactorily, with nitrous oxide gas, with vegetable decoctions, and with various narcotics; and books had been published on the subject.

4. Inhalation of ether, as an antidote to chlorine gas, and in various cases of pain, spasms, &c., temporary or chronic, was an established prescription.

On the other hand, it was NOT KNOWN, that the insensibility produced by inhaling ether was of such a character and degree, and governed by such laws, as to be of great value in the most painful operations.

What remained to be proved was, in fact, a problem of three parts.

1. The degree to which this insensibility could be carried.

2. The safety with which this could be done, and the general effects attending it.

3. The use this state could be put to, in cases of painful operations.

It will be observed that these are things which could be demonstrated only by actual experiment. This was a case in which scientific deductions, notions, or hypotheses, could discover nothing, establish nothing. It is one of those discoveries which are made by courageous, persevering men; and for which no extraordinary degree of scientific attainment is necessary.

II. What is the specific thing that makes this a *discovery?*

Having settled what was known before, and knowing what was in fact proved here, we have no difficulty in settling what is the *gist* of the discovery.

It is that the inhalation of sulphuric ether will

produce *such a degree* of insensibility that the most severe operations may be performed without pain.

That which constitutes the *miracle* of this discovery—that before which the whole scientific world had bowed, as to a revelation of a new law in nature—is the *extent and completeness* of this insensibility, and the safety with which it is produced.

Bearing in mind, then, that since Davy's time no claim as discoverer can be allowed for merely suggesting or experimenting upon the idea of producing insensibility by inhalation, and that it was known to physiologists that the inhaling of ether would safely produce a considerable degree of insensibility, and was useful in cases of pains and spasms, we will proceed to trace the history of the discovery of this hitherto hidden law.

CHAPTER II.

FACTS AGREED—FACTS IN DISPUTE—DR. JACKSON'S CLAIM—DR. MORTON'S CLAIM.

In conducting the examination of a disputed question, one of the first steps should be to settle what facts are admitted on both sides, and what are in dispute. The following facts may be considered as admitted, on both sides:—

1. That on the 30th Sept., 1846, Dr. W. T. G. Morton, at his room, No. 19, Tremont Row, Boston, administered the vapor of sulphuric ether to a patient, and extracted a tooth, the patient being in a state of entire insensibility.

2. Neither Dr. Jackson nor any one in his behalf was present at this experiment.

3. The next day, Dr. Morton called on Dr. Jackson, and told him what he had done; which was the first information Dr. Jackson had that such an experiment had been performed.

4. Neither Dr. Jackson nor Dr. Morton claim to have performed an experiment, of a surgical or any other painful operation, under the effect of inhalation of ether or any other vapor, previously to this one.

5. The test experiments at the hospital were performed on the 16th and 17th October, and 6th November. These experiments were conducted by Dr. Morton; neither Dr. Jackson nor any one in his behalf being present. None of the physicians, surgeons, or officers of the hospital had any intimation that Dr. Jackson was in any way concerned in the discovery until after the second experiment.

6. The first experiment Dr. Jackson attended was at the Broomfield House on the 21st November, where he was present by invitation, and he had been in Boston all the time, since the 30th September, with the exception of about a week or ten days.

7. Dr. Jackson does not claim to have administered ether in any case of a surgical operation, up to the time of the publication of his pamphlet—June, 1847.

8. On the morning of the 30th September, a few hours before the first experiment, a conversation took place between Dr. Morton and Dr. Jackson, in the laboratory of the latter. It is at this conversation that Dr. Jackson made all the communications he claims to have made to Dr. Morton upon the subject.

It is fortunate for the parties and the public that the time and place of the only conversation relied upon, have been fixed by each claimant, without dispute or possibility of change.

The main facts in controversy are these:—

Dr. Jackson claims to have discovered, previously to his interview with Dr. Morton, this wonderful property of ether; admitting, however, that he had never actually tried an experiment to test it by any painful operation. He claims to have communicated this discovery to Dr. Morton at the interview, and that Dr. Morton, in his experiments at his office and at the hospital, was only his (Dr. J.'s) agent or instrument; that these were, in fact, his own experiments, upon the maxim, *qui facit per alium facit per se.* In confirmation of this, he alleges that Dr. Morton had no intention of experimenting, in this direction, and was utterly ignorant of sulphuric ether, and that he first put it into his mind to try an actual experiment, and predicted the result that has followed. So entire is Dr. Jackson's claim of foreknowledge that in his pamphlet it is said he expressed no surprise at that result which has astonished the world. "Dr. Jackson expressed no surprise, as he expected this result."—*Dr. Gay's pamphlet*, p. 13.

Dr. Morton, on the other hand, says, that ever since Dr. Wells' attempt in 1844–45, his attention had been at times turned in this direction; that he had made experiments of inhaling gases and mixtures, and, particularly, that he had tried ethers, and sulphuric ether, in the summer of 1846, that he had read somewhat and made inquiries as to the properties of ethers; that when he went to Dr. Jackson he was in the course of a direct experiment, and went to get from him an instrument, and any additional information Dr. J. might have as to the known properties of ether, without too far developing his own plans and objects; that Dr. Jackson gave him no information beyond what was in print, and could have been obtained of other well-informed chemists, and described the effects of ether in the same language that has been used in the books; that, in all his experiments, at his office and at the hospital, he acted solely on his own responsibility and account, Dr. Jackson being in no way committed to them, or responsible for their results, nor, even, so far as Dr. Morton knows, aware that they were going on.

After these preliminary statements we ask the reader's attention to the evidence, and a few necessary accompanying remarks.

CHAPTER III.

HISTORY OF THE DISCOVERY UP TO THE TIME OF THE INTERVIEW BETWEEN DRS. JACKSON AND MORTON.

Dr. W. T. G. Morton, at the time of the experiments, was about twenty-six years of age, and had been for several years a practising dentist in

Boston, of unusually extensive reputation for his time of life. He is a married man, with a family, having married into a highly respectable and well-known family in Connecticut. He has never received a college education, and did not prepare himself, in early youth, for one of the learned professions. He acquired a competent knowledge of dentistry, and attended two full courses of medical lectures in Boston, including those of the professor of chemistry. The certificates of this attendance he has now in his possession. To acquire additional knowledge of chemistry, he entered Dr. C. T. Jackson's office, and boarded in his family, in 1844. Dr. Jackson gave Dr. Morton the following certificate, to aid him in gaining admittance to the American Society of Dental Surgeons:

To the Secretary of the Executive Committee of the American Society of Dental Surgeons:

Mr. W. T. G. Morton, dentist, entered his name with me as a student of medicine, March 20th, 1844, and attended to practical anatomy, in the Massachusetts Medical College, during the winter of that year; where he dissected with diligence and zeal, and paid special attention to the anatomy of the head and throat—parts of human anatomy particularly important to the surgeon dentist. He also studied Bell's and other standard works on anatomy, and attended the lectures of Drs. Warren, Hayward, and other professors. I would recommend him as a suitable person for admission as a dental surgeon. He is a skilful operator in dentistry, both in the surgical and mechanical departments, and has studied the chemical properties of the ingredients required for the manufacture of artificial teeth.

CHARLES T. JACKSON, M. D.

Dr. Morton was, for a while, in partnership with Dr. Horace Wells, but this connection was dissolved, and Dr. Wells established himself in Hartford, Conn. In December, 1844, Dr. Wells came to Boston, and requested Dr. Morton to introduce him to the officers of the Medical College, in order that he might make some remarks, and try his experiment to produce insensibility by the inhalation of nitrous oxide gas.

Dr. Warren on Etherization, (p. 85,) cited ante, says, "Sir Humphrey Davy himself successfully employed the inhalation of nitrous oxide for the relief of pain. In this country, Dr. Horace Wells, of Connecticut, made many trials of this gas in 1844. In the autumn of that year he came to Boston, and, in company with Dr. Morton, visited me at the Medical College, for the purpose of requesting that the medical class should have an opportunity of hearing some remarks on the use of the nitrous oxide for the prevention of pain. These remarks were actually made, and at a subsequent day a trial of the gas took place."

This trial was the extraction of a tooth. Dr. Morton was present. Dr. Wells, in his pamphlet, admits this to have been a failure. Dr. Wells does not profess to have tried, or made any allusion to, the use of ether, at this time.

Dr. Morton, in his memoir to the French Academy, says, that after this experiment his mind was frequently directed to this subject, and that he read books, and made inquiries, occasionally, bearing upon it. Of this, we have, besides his own statement, the evidence of the following bill, which shows that, about six weeks after Dr. Wells' experiment, he purchased several books, some of which contained information on the subject of ether, and, among others, Pereira's Mat. Med., referred to above.

BOSTON, May 3, 1845.

Dr. Morton,

Bought of Benj. B. Mussey,

1 Hooper's Dict'y,	$3 00
1 Duitt's Surgery,	3 00
1 Carpenter's Physiology,	3 25
1 Churchill's Mid.,	3 25
1 Wilson's Anat.,	3 25
1 Watson's Pract.,	3 00
	18 75
1 Pereira's Mat. Med.,	6 50
	25 25
1 Webster's Chem.,	2 50
	$27 50

Received Pay't, &c., B. B. Mussey,
By &c. &c.

But there is one fact which, we submit to the judgment of every reader, raises a fair presumption in favor of the truth of this statement. It is well known that Dr. Morton has given unusual attention to the branch of mechanical dentistry, that is, the business of preparing and fitting sets of artificial teeth. This requires the extraction of several teeth at once, usually a very painful operation: one which deters many persons from undergoing it, and obliges many to abandon the attempt after having entered upon it. This is especially the case with delicate females. Thus, Dr. Morton had a direct pecuniary motive, bearing almost daily upon him, to alleviate or annihilate pain under his operations. Probably no man has had this motive pressing upon his pecuniary interests more than the mechanical dentist. The operations of the surgeon are necessary, and are seldom performed until they are inevitable. Those of the mechanical dentist are voluntary with the patient, mostly mere matter of greater or less convenience, of luxury or appearance. This is probably the reason why Dr. Wells, whose occupation had also been chiefly mechanical dentistry, rather than any man of science or of the learned professions, took up this subject in 1844.

As it is unnecessary to offer formal proof of notorious facts, it may be stated here that Dr. Wells, soon after the experiment of 1844, gave up dentistry, and was employed variously, part of the time in preparing and exhibiting a collection of birds, and afterwards as an agent for the sale of shower baths. And, still later, he went to Europe to purchase pictures for resale in this country; he was there engaged in this enterprise, when he put in his claim to this discovery; and remained in the same business until his death, in January, 1848.

We will now present the evidence on the point, that Dr. Morton did experiment upon this subject, and for this end, in the summer of 1846, some

three months before the interview with Dr. Jackson. In presenting the evidence of Mr. Theodore Metcalf, it is unnecessary to make any remark to a Boston public. But for the information of persons at a distance we make the following extract from the report of the trustees of the Massachusetts General Hospital, who say that in his professional capacity "he has long possessed, in the highest degree, the confidence and respect of the medical profession; and there is no one in the community whose personal character would give higher authority to any statement of facts distinctly and positively made."

Mr. Theodore Metcalf—in a note to Dr. Morton, dated Dec. 20, 1847—says, "I can only state, that I remember to have met you at Mr. Burnett's store early in the summer of 1846, and to have had a conversation with you in regard to the medicinal qualities of *sulphuric ether*, a quantity of which you were then purchasing. I cannot, as you desire, give the precise date, but know it to have been previous to July 6, as I left Boston on that day for a tour, from which I have but a few weeks returned." Mr. Metcalf also, subsequently, sent the following letter.

Boston, Jan. 26, 1848.

Sir—In answer to your inquiry respecting the nature of my interview with Mr. Morton, I can only add to my note of December 20, that the conversation was commenced by some inquiry on his part, concerning the nature and effects of sulphuric ether, a vial of which he then held in his hand.

In answer to his several questions, I gave him such information as he could have obtained from any intelligent apothecary at that time, and also related to him some personal experience as to its use as a substitute for the nitrous oxide; adding the then generally received opinion, that its excessive inhalation would produce dangerous, if not fatal consequences. Some reference was made—but whether by Mr. Morton or myself, I cannot remember—to the unsuccessful experiments of his former partner, Mr. Wells, with the nitrous oxide. It was one of those casual conversations which quickly pass from the mind; and it was for the first time recalled to my memory, upon seeing, months after, in a French journal, an account of the anæsthetic effects of ether, the discovery of which was ascribed by the writer to a Boston dentist.

I am, sir, very respectfully,
your obedient servant,
Theodore Metcalf.

N. I. Bowditch, Esq.

Mr. Metcalf sailed for Europe July 6, 1846, in the ship Joshua Bates, and was absent, on a tour, until shortly before writing the above letters. This accounts for so material evidence having been delayed, and Dr. Morton says that he had forgotten having held any such conversation until reminded of it by Mr. Metcalf, after his return.

This evidence puts the date, fortunately, beyond all question; and it may be considered as establishing these facts; viz.:

That Dr. Morton purchased a vial of sulphuric ether at Mr. Burnett's early in the summer of 1846, certainly before July 6th.

That he made inquiries as to its effects on the system, with reference both to the danger attending its use, and to the state in which it would put the person who inhaled it.

That this was connected with the unsuccessful experiment of Dr. Wells, to produce insensibility by nitrous oxide gas.

And, lastly, that Dr. Morton could not have been utterly ignorant of suphuric ether and its effects on the 30th of September following.

Can there be a doubt that, at this time, Dr. Morton at least had in his mind the idea, that the result which Dr. Wells failed to produce by nitrous oxide, might be produced by sulphuric ether?

In offering the deposition of Mr. Francis Whitman, we make the following extracts from the trustees' report. And we remark, once for all, that when we thus present vouchers for the character of any witness, it must be understood that we do it for the information of persons to whom he is a stranger.

"Francis Whitman, one of these deponents, has recently died; his truthfulness seems to be unquestionable." And again, "Whitman, whose character even Dr. Gay admitted to have been above suspicion." The certificates to the character of Mr. Whitman, in the place where he was born and passed his childhood and early youth, and where his family is of high standing and worth, are couched in the strongest terms, and are from persons holding public offices of trust and honor.

Boston, March 25, 1847.

I, *Francis Whitman*, of Boston, in the county of Suffolk, and State of Massachusetts, student at dentistry, on oath depose and say—

That I have often heard Dr. Morton speak about discovering some means of extracting teeth without pain. This discovery appeared to be the subject of his thoughts and investigations during the greater part of last year, *i. e.*, 1846. One day—I think it was previous to July, 1846—Dr. M., in speaking of the improvements he had made in his profession, and of some one improvement in particular, said, if he could only extract teeth without pain, he "would make a stir." I replied, that I hardly thought it could be done. He said, he believed it could, and that he would find out something yet to accomplish his purpose. In conversation with Dr. M., some time in July, he spoke of having his patients come in at one door, having all their teeth extracted without pain and without knowing it, and then going into the next room, and having a full set put in.

I recollect Dr. Morton came into the office one day in great glee, and exclaimed, that he had "found it," and that he could extract teeth without pain! I don't recollect what followed; but, soon after, he wanted one of us in the office to try it, and he then sent William and Thomas out to hire a man to come in and have an experiment tried upon him. After all these circumstances happened, Dr. Hayden advised Dr. Morton to consult with some chemist in relation to this discovery. I went, at Dr. Morton's request, to see if Dr. Jackson had returned, (he having been absent from the city,) but found that he was still absent.

I told Dr. Morton I knew what it was that William had bought, and said it was chloric ether. Dr. M. then said, he wished to know if ether would dissolve India-rubber, and sent William P. Leavitt to inquire of Dr. Gay if it would.

About this time, Dr. M. asked me to get the books on chemistry, and find what they said about ether. I did so, and read it over to him, and I think he went to Burnett's to see if he could not find something there.

After the first announcement of the discovery in the papers, I went to Dr. Jackson's, and he spoke to me of some notices in the papers; but, immediately after, said he did not "care how much Dr. M. advertised, if his own name was not drawn in with it." A week or two after this conversation, I was at Dr. Jackson's when he asked me how we got along with the gas. I told him that we got along first-rate. He then said, he "did not know how it would work in pulling teeth, but knew its effects at college upon the students, when the faculty had to get a certificate from a physician, that it was injurious, to prevent them from using it:" but that he "did not know how it would operate in pulling teeth."

FRANCIS WHITMAN.

Of Spear and Leavitt, whose affidavits are given below, the trustees in their report remark: "Thomas R. Spear, Jr., is highly spoken of, as a person of veracity, by Hon. John P. Bigelow, and Charles Sprague, Esq., two of our most respectable citizens. William P. Leavitt is also spoken of to the committee, as a credible witness, by Nathaniel G. Snelling, Esq., the well-known president of the late Massachusetts Fire and Marine Insurance Company." William Flagg, Esq., of West Needham, a justice of the peace and postmaster, also certifies to the veracity and worth of Leavitt. It should be remarked, also, that these young men, Whitman, Spear, and Leavitt, are of known and respectable connections, New England born, with good school and academy educations, permanently residing in Boston, and preparing themselves for the profession of dentists.

BOSTON, March 25, 1847.

I, *William P. Leavitt*, of Boston, in the county of Suffolk, and State of Massachusetts, on oath depose and say—

That, about one week after Dr. Hayden came to practise dentistry in connection with Dr. Morton, with whom I was then a student—that is to say, about the first of July, 1846—Dr. Morton stepped into his back office, much excited, and exclaimed, with great animation, (as nearly as I can recollect his language,) "I have got it now. I shall take my patients into the front room and extract their teeth, and then take them into the back office and put in a new set, and send them off without their knowing anything about the operation."

Some days after this, about the first of August, 1846, Dr. M. asked Dr. Hayden where he (Dr. Morton) could get some very nice pure ether. Dr. H. recommended him to send to Brewer, Stevens & Co. Dr. Morton then called me out behind the screen, and requested me to go down to Brewer, Stevens & Co.'s, and get him some pure ether. He told me to keep everything to myself. He said he wished me to be careful not to let them know who it was for, or where I was from or was going to. I then bought some ether; told them it was to be sent out of town, and requested them to make out the bill in the name of some person in the country—whom, I don't now recollect.

I brought the ether home and gave it to Dr. Morton. A short time after this, he requested me to call on Dr. Gay, and ask him if ether would dissolve India-rubber, as he wanted to put some ether into an India-rubber bottle or bag. I went to call, but could not find his residence. I returned, and said so to Dr. M. the next morning.

About a week after this, Dr. Morton told me that, if I would find a man who would have a tooth extracted, and have an experiment tried upon him which was perfectly harmless, he would give me five dollars, and he sent me out with Thos. R. Spear, Jr., for that purpose. We went down to the wharves and spoke to a number of persons; but they declined coming; so that, after some time, we returned without bringing any one with us. Dr. Morton then asked me to try it; but I refused. He then said that he had taken it, and that it was perfectly harmless, and that he wanted some one else to take it, that he might SEE how it operated. Dr. Hayden said, "Tom will take it;" but he said no, he had no teeth he wished extracted. But he finally said, "I will take some, won't you?" We both took it the same evening, inhaling it from a handkerchief. Thomas took it first, and I stood by him. He seemed to fall nearly asleep, so that he dropped the handkerchief; and, when he was coming to himself, he was very much excited, so that I was obliged to hold him in the chair. When he came to, he seemed perfectly delighted with the sensations he had experienced—so much so, that he could not find language to express himself. He then persuaded me to inhale it. I told him I would, if he would leave the room, as he did, when I took it with much the same effects.

WM. P. LEAVITT.

BOSTON, March 25th, 1847.

I, *Thomas R. Spear, Jun.*, of Boston, in the State of Massachusetts, depose and say—

That, about the first of August, 1846, at request of Dr. Morton, I inhaled a portion of ether, which William P. Leavitt brought from Brewer, Stevens, and Co.'s, in a demijohn, in Dr. Morton's office. The rest of the young men in the office were afraid to take it; but, having taken what I supposed to be the same before, at the Lexington Academy, I did not hesitate to take it when I learned what it was.

About a week after the ether was purchased of Brewer, Stevens, and Co., Dr. Morton was expecting some persons at his office to witness an experiment, and he then offered me a sum of money if I would be present and inhale the ether. I went home and consulted my parents, and they advised me not to go. I have often heard Dr. M. say that, when he had completed his invention for extracting teeth without pain, he should be satisfied.

Ever after Dr. Hayden came into the office, Dr. Morton seemed wholly absorbed in making this discovery, and had a number of bottles, an India-rubber bag, &c., &c., with which he prosecuted his experiments in the little room adjoining the front office, where he frequently locked himself in.

Dr. Morton offered me five dollars if I would get some one to come into the office and to have an experiment tried upon him, of having a tooth extracted while under the operation of gas. I went, accordingly, down to the wharves, in company with Wm. P. Leavitt, in order to get some one for this purpose, but did not get any one to have the experiment tried upon.

THOMAS R. SPEAR, JR.

We next call attention to the affidavit of Dr. Grenville G. Hayden. Samuel Greely, Esq., and N. C. Betton, Esq., counsellor at law, both

whose statements should carry the greatest weight, in written certificates now in the editor's possession, say they have known Dr. Hayden for years, and express their belief that he may be relied upon for truth and veracity. Benjamin Fisk, Esq., late president of the American Bank, and Gilbert Brownell and Jeffrey R. Brackett, merchants, all residents of Boston, and men of high respectability and of the best standing in business, in a certificate published in Mr. Warren's pamphlet, say they "have been for some years intimately acquainted with Dr. Hayden," and certify to their "undoubting confidence in him for truth and veracity," and their belief that he is "a gentleman of strict probity and truth."

Boston, March 25, 1847.

I, *Grenville G. Hayden*, of Boston, in the county of Suffolk, and State of Massachusetts, dentist, on oath depose and say—

That, about the last of June, 1846, Dr. William T. G. Morton called upon me at my office, No. 23, Tremont Row, and stated to me that he wished to make some arrangements with me that would relieve him from all care as to the superintendence of those employed by him in making teeth, and all other matters in his office. He stated, as a reason for urging me to superintend his affairs in his office, that he had an idea in his head, connected with dentistry, which he thought "would be one of the greatest things ever known," and that he wished to perfect it, and give his whole time and attention to its development. Being extremely urgent in the matter, I made an engagement with him the same day, according to his request. I then asked him what his "secret" was. "Oh," said he, "you will know in a short time." I still insisted upon knowing it, and he finally told me the same night —to wit, the night of the last day of June, 1846, aforesaid—that "it was something he had discovered which would enable him to extract teeth without pain." I then asked him if it was not what Dr. Wells, his former partner, had used; and he replied, "No! nothing like it;" and, furthermore, "that it was something that neither he, nor any one else, had ever used." He then told me he had already tried it upon a dog, and described its effects upon him, which (from his description) exactly correspond with the effects of ether upon persons who have subjected themselves to its influence, under my observation. All this happened in June, 1846. He then requested me not to mention what he had communicated to me.

About a month after this, or the first of August, 1846, Dr. Morton asked me where he could get some pure ether, and asked me to go to Joseph Burnett's apothecary shop, and purchase a four-ounce vial full of ether, which he said he wished to carry home with him, he being about to leave town for Needham, where he then resided. And about the same time he explained to me the nature and effects of ether, and told me that, if he could get any patient to inhale a certain quantity of ether gas, it would cause insensibility to the pain of extracting teeth, and he tried to induce me to take it. Dr. Morton said he had breathed it himself, and it would do no harm; and he at the same time tried to induce three young men in the office to take the gas. This was in August, 1846. He was continually talking about his discovery to me. From the time I engaged with Dr. M. as aforesaid, he frequently stated to me that he had nearly perfected every department in dentistry, save extracting teeth without pain, and that he was determined to accomplish that also. But towards the last of September following, he intimated to me that, in some particulars, his discovery did not work exactly right, and, in my presence, was consulting his books to ascertain something further about ether.

Upon this, I recommended him to consult some chemist on the subject. Dr. Morton then sent Francis Whitman to see if Dr. Jackson was at home, but Francis returned, and said that Dr. J. was not at home. The next day, however, which was about the last of September, 1846, Dr. M. said that he had that day seen Dr. Jackson, and derived from him a hint by which Dr. M. thought he could remove the only remaining difficulty. Dr. M. said that, in his interview with Jackson, the subject of nitrous oxide gas and of ether gas, and atmospheric air, was freely talked of, as having an effect on the imagination of the patient, and various experiments which had been tried with these gases on students at Cambridge college; also, the experiments of Dr. Wells and himself together, with the nitrous oxide gas; but that he withheld from Dr. Jackson the fact that he had been experimenting on ether gas before. The same day, Dr. Morton told me that he had just tried ether again—in accordance with Jackson's hint—on himself, and that he had remained insensible seven or eight minutes, by the watch.

The first successful experiment upon any patient was made September 30th, 1846, by inhaling ether through a folded cloth, and on that occasion a tooth was extracted without pain. We tried repeated experiments with the same means subsequently, and they all resulted in total failures. Dr. M. said that Dr. Jackson recommended a certain apparatus, which he lent Dr. Morton from his laboratory, consisting of a glass tube of equal size throughout, having a neck, and being about three feet long. This was likewise a total failure. So far, all our experiments, with one exception, proving abortive, we found that a different apparatus must be obtained, and it was at this time that Dr. M. procured, from Mr. Wightman, of Cornhill, a conical glass tube, with which, by inserting a sponge saturated with ether in the larger end, we had better success, and our experiments began to assume a more promising aspect.

Still, our success was not uniform, and far from perfect. At this time, Dr. M. suggested that our failures might be owing to the fact that, in all our experiments so far, the patient had breathed the expired vapor back into the vessel, thus inhaling the same over and over. He then stated that the expired air should pass off into the surrounding atmosphere, and wished me to make a pattern for an apparatus, by which the air should pass into the vessel, combine with the ether, be inhaled into the lungs, and the expired air thrown off into the room. The idea, as thus forced upon him, and communicated to me, was fully elaborated, and corresponds most accurately with the apparatus now in use in this country and in Europe, and for which Dr. M. has applied for letters patent. I replied, that he had explained his idea so clearly that he would have no difficulty in directing a philosophical-instrument maker to manufacture a proper inhaler at once, without a pattern, and recommended to him Mr. Chamberlain, in School street, to whom he applied accordingly, and who made, as thus desired, the first inhaler. And with such an apparatus, we

have had almost uniform success to this day, the results of which are known to the world.

And I will here state that, on the evening of the 30th of September, after the first experiment had been made with success, Dr. Morton spoke about going to the hospital and using the ether there, and thus bring out the new discovery. After several other successful experiments, the question came up anew, how to introduce it to the world, when Dr. M. stated, that Dr. Jackson had declined to countenance it, or aid in bringing it out, and then he (Dr. M.) said he would see Dr. Warren, and have his discovery introduced into the Massachusetts General Hospital. He went out and soon returned, stating that Dr. W. had agreed to afford him an opportunity to apply the vapor, as soon as practicable, in the hospital.

For more than four weeks after our first experiment, it was well understood, and often spoken of in the office, that Dr. Jackson repudiated all share, pretence of, or interest in, the discovery. He was never in Dr. M.'s office during all our experiments, to my knowledge, until the 21st of October, and I never knew that Dr. M. advised with Dr. J. as much as with many others, or in fact but once.

GRENVILLE G. HAYDEN.

In corroboration of the statements as to the connection Dr. Morton formed with Dr. Hayden and his object in forming it, the editor offers his own letter to Mr. Bowditch, one of the trustees, and that of his kinsman, Francis Dana, Jr., M. D., taken from the trustees' report.

30, Court-street, Jan. 8, 1848.

My dear Sir—On the 30th June, 1846, Dr. W. T. G. Morton came to my office, in company with Dr. G. G. Hayden, to have a contract drawn, the object of which was to provide, that Dr. Hayden should take the entire charge of Dr. Morton's business for a time, in order that Dr. M. might be able to give his attention to something else. Dr. Morton did not state what it was that he was engaged upon; but my impression, founded on my own recollection alone, is very strong, that he said it was something of great importance, which, if successful, would revolutionize the practice of dentistry. I am entirely confirmed in this impression by Dr. F. Dana, whose note on the subject I enclose. It was agreed that I should keep the instrument, and I have it now before me. It bears date June 30, 1846, and was to take effect the next day. The charge in my account-books for drawing the contract is of the same date.

Truly your friend and servant,

RICHD. H. DANA, JUN.

Nathaniel I. Bowditch, Esq.

Note enclosed in the preceding.—To R. H. Dana, Jun.: Dear Sir,—During the summer of 1846, in the course of a conversation on the subject of dentistry, you mentioned to me that Dr. Morton had told you he was engaged upon something of great consequence, which would revolutionize the practice of dentistry. This conversation was during the extreme hot weather of that summer, a long time before the discovery of the effect of ether, in producing insensibility during operations, was announced; I should say, so well as I can judge, between two and three months.

Jan. 10, 1848. FRAS. DANA, JUN.

In justice to Messrs. Brewers, Stevens, and Cushing, from whom Dr. Morton obtained the ether in August, it should be said, that they are large dealers, selling articles of every grade of excellence, and the purchaser was perhaps not sufficiently specific in his requirements. Highly rectified ether was also quite rare at this time.

Dr. Morton contends that if this ether had been highly rectified and of the best quality, he should have made the discovery in August, before seeing Dr. Jackson. As evidence of the character of this ether Dr. Morton offers the following certificates :—

BOSTON, June 22d, '47.

Examination of Mr. Leonard's liquid :—

It is essentially an impure sulphuric ether. It contains more impurities than usual in the best ethers sold at the druggists. The proportion of alcohol is very large, not far from a quarter part of the liquid being this substance. It contains, beside the other impurities of common ether, particularly sulphur acids. It contains a trace of oil of wine.

MARTIN GAY.

P. S. The above general information is given, not knowing the object of the examination.

BOSTON, June 22d, 1847.

At the request of Mr. G. G. Hayden, I hereby certify that the contents of a demijohn, handed me by him, is *unrectified sulphuric ether.*

JOSEPH BURNETT.

I certify that the ether—analyses of which are given above—has been constantly in my possession since August last, and is the same brought by Wm. P. Leavitt from Brewer, Stevens & Co.'s, as stated in his affidavit.

GRENVILLE G. HAYDEN.

Boston, June 22, 1847.

CHAPTER IV.

THE INTERVIEW WITH DR. JACKSON.

The great points of inquiry as to this interview are, —

The intention, the *animus*, with which Dr. Morton sought out Dr. Jackson, and the precise nature of the communication made by Dr. Jackson to him.

Dr. Morton, in his memorial to the French Academy, after describing his experiment with the sulphuric ether from Brewers & Co., says : —

This experiment was early in August, and it being hot weather, and, being somewhat out of health, I went into the country, and abandoned the experiments until the middle of September. With the autumn and the restoration of health, my ambition led me to resume my experiments, and I mentioned to Dr. Hayden that I feared there was so much difference in the qualities of ether, that in so delicate a matter there would be great difficulty in bringing about any generally useful and reliable results.

Thinking that a surer effect might be produced by inhaling the ether through some apparatus, I called repeatedly on Mr. Wightman, a philosophical instrument maker, for the purpose of procuring or contriving an apparatus. While examining his bags for inhaling nitrous oxide gas, the thought struck me that I could put the ether into one of these, and by making an opening to be closed by a valve, for the admission of atmospheric air, could

convert it into an inhaling apparatus. Upon second thought, I had an impression that ether would dissolve India rubber, and put the question to Mr. Wightman. He thought it would. I then put the same question as to oil silk. He answered that he did not know, but advised me to consult a chemist, and named Dr. Jackson. I took from Mr. Wightman a glass tunnel, purchased an India rubber bag on my way, and returned to my office. I then sent Leavitt to Dr. Gay, a chemist, to ask the simple question, whether ether would dissolve India rubber. He returned, saying that Dr. Gay was not in.

In the mean time I became satisfied that the bottle and glass I had were not large enough for my purposes, and not wishing to go to unnecessary expense, I said to Dr. Hayden that I would borrow a gas bag from Dr. Jackson's laboratory. He then suggested to me to ascertain from Dr. Jackson something as to the different qualities and preparations of ether, with which he said chemists were always familiar. I approved of the suggestion, but feared Dr. Jackson might guess what I was experimenting upon, and forestall me. I went to Dr. Jackson, therefore, to procure a gas bag, also with the intention of ascertaining something more accurately as to the different preparations of ether, if I should find I could do so without setting him upon the same track of experiment with myself. I am aware that by this admission I may show myself not to have been possessed by the most disinterested spirit of philosophic enthusiasm, clear of all regard for personal rights or benefits; but it is enough for me to say, that I felt I had made sacrifices and run risks for this object; that I believed myself to be close upon it, yet where another, with better opportunities for experimenting, availing himself of my hints and labors, might take the prize from my grasp.

Mr. Wightman, whose statement we append, is well known to scientific men in the United States. He is engaged in scientific pursuits, has contributed valuable articles to scientific journals, and has lectured successfully before many of our public institutions. His character for accuracy as well as for veracity and intelligence, gives his statement great value.

Boston, Feb. 10, 1848.

N. I. Bowditch, Esq.,

Dear Sir,—In answer to your note of yesterday, desiring any information I might be able to communicate with regard to Dr. Morton's application of ether, I am happy to render the following statement for the use of the trustees of the hospital, which, if it will aid their investigations, is entirely at their service.

My acquaintance with Dr. Morton commenced in the summer of 1846, when he applied to me for some information upon increasing the security of artificial teeth by atmospheric pressure. A short time afterwards (I think within a few weeks) he called again, and, in reply to me, stated that he had abandoned his views on atmospheric pressure, which he found were erroneous, *and was then engaged upon something of much greater importance in his profession. He then wished me to show him some bags of India rubber cloth, made for retaining gas, and inquired whether it would do to put sulphuric ether into them.* My answer was, that ether was used to *soften* rubber, and might dissolve it so as to make the bag leak. He then asked me if an oiled silk bag would retain it. I told him that the silk was covered with a preparation of linseed oil, which I had no doubt would be acted upon by the ether; but, as I could give him no *certain* information respecting the effect, *I advised him to call upon Dr. Charles T. Jackson*, who was well versed in these matters, and could give him the necessary information. He then observed that Dr. Jackson was a friend of his; that he had boarded in his family; had been a student with him; and that he did not think of it before, but would call upon him.

A few days after this interview, Dr. Morton came to me for some chemical glasses, and appeared inclined to keep from me the purpose for which he wished them; but, in the course of the conversation, I had no question in my mind but they were for experiments with ether. The article he then took not answering his purpose, he visited my rooms a number of times during the week; and, after trying various articles, he informed me that what he wished to have was something which would allow ether to be inhaled from it, to produce insensibility to pain in his dental operations. I inquired of him whether this would not injure the lungs. He replied that he had tried it himself, and administered it without experiencing any ill effects, and that Dr. Jackson said that it was not injurious.

After suggesting various forms for an inhaler, we decided upon a tubulated globe receiver into which he proposed to put a piece of sponge, to be kept saturated with ether, and have the opening through which the retort usually enters placed over the mouth, and the air admitted through the *tubulure*, or hole for the stopper. I advised him to try this, and, if it answered the purpose, to have an appropriate vessel made. He then left me, and I did not see him again, until one afternoon he called upon me in great haste, and begged me to assist him to prepare an apparatus with which he could administer the ether to a patient at the hospital the next day, as Dr. Warren had consented to use it in an operation. He appeared much excited; and although, from a pressure of other engagements, it was very inconvenient for me, yet I consented to arrange a temporary apparatus under these circumstances. This apparatus was composed of a quart tubulated globe receiver, having a cork fitted into it instead of a glass stopper, through which cork a pipette or dropping tube was inserted to supply the ether as it was evaporated. *I then cut several large grooves around the cork to admit the air freely into the globe to mix with the vapor*, and delivered it to Dr. Morton.

From this time I have had but one interview with Dr. Morton, and I regret that I am unable to furnish specific dates for these transactions; but, from the variety of articles tried and returned by Dr. Morton, and the trifling value of those taken by him at different times, I made no charges to him in my books. I am therefore indebted to other circumstances for the date of these occurrences, one of which is, that I returned to Boston from the country with my family on the 28th Sept. 1846; a fact which appears from an actual entry in my books. In the cars I met Dr. Morton; and, from my recollection of the circumstances at that time, I am satisfied that the conversation about the effect of sulphuric ether upon the gas bags was previous to that time. My attention was called to the date and circumstances of this interview in the winter of 1846–7, and I then satisfied myself upon the matter.

On the appearance of the article signed "E. W." in the Daily Advertiser of March 5, 1847, in which

some allusion was made to me, Dr. Jackson and Mr. Peabody called upon me in reference to my knowledge of the dates of Dr. Morton's interviews with me. I explained the matter to them at that time; and, although we differed in opinion as to the date of Dr. Morton's *first* application to me, yet I am happy to state that Dr. Jackson has since admitted to me, that my view of the dates of the transactions was substantially correct, adding that he could substantiate his discovery as far back as 1842. Yours respectfully,

JOSEPH M. WIGHTMAN.

The editor has seen the entry in Mr. Wightman's book, and finds it to have been contemporaneous, followed by others on the 29th and 30th. Mr. Wightman has stated to him, as well as to the committee of the trustees, the circumstances that took place in the cars. He agrees with the trustees, that they are such as "render a mistake impossible."

Mr. Wightman prefers, as a matter of good taste, not to publish these details, unless his statement is questioned, which he understands Dr. Jackson does not now do.

This evidence of Mr. Wightman confirms Dr. Morton in one very important particular. It shows that it was upon Mr. Wightman's suggestion, that Dr. Morton went to Dr. Jackson, and that previously to going to Dr. J. he had provided something for inhaling ether, and spoken of what he was engaged upon as "of great importance in his profession."

It will be observed that Dr. Jackson and his student and chief assistant in this controversy, Mr. Peabody, regarded the statement of Mr. Wightman, fixing the conversation with Dr. Morton previously to Sept. 28th, as material, and endeavored, quite earnestly, as Mr. Wightman tells us, to satisfy him that he was mistaken; and it is not, as the trustees in their report observe, until other similar evidence had appeared, and he had determined to fall back on the discovery of 1842, that Dr. Jackson was willing to admit that the confidence of Mr. Wightman might be well founded.

We will here depart, a moment, from the regular course of events, to say that Dr. Jackson was not aware of the existence of any of the preceding testimony when he published his claim to the exclusive merit of the discovery. None of it was obtained until after the appearance of his own claim, which was published first in Europe, in December, 1846, and known in America in February, 1847. Dr. Morton then collected evidence in self-defence, but at first only the affidavits of the young men in his office. Then came Dr. Jackson's authoritative pamphlet. After this pamphlet appeared, the very important testimony of the Messrs. Eddy, hereafter to be cited, that of Mr. Dana, Dr. F. Dana, and Mr. Metcalf, has been obtained. We cannot help expressing the belief, that had Dr. Jackson known that facts were as this evidence shows them to have been, he would not have so depreciated Dr. Morton's claim, as to take the course he has.

We have now brought the evidence and narrative down to the time of the interview between Dr. Jackson and Dr. Morton. At this interview Dr. Jackson, in his pamphlet, claims to have imparted his discovery to Dr. Morton, and employed him, as his agent, to perform the test operations. Dr. Morton denies that Dr. J. communicated to him anything more than was then known and in print, and generally received among good chemists.

The question naturally arises, what discovery did Dr. Jackson communicate?

Dr. Jackson admits that he had performed no experiments to test the question. At best it was but an idea, an impression, that he could communicate. Indeed, Dr. Gay so calls it, in his pamphlet. "Dr. Jackson brought forward a *long cherished idea* of his own, which he had previously communicated to several persons—his plan for the prevention of pain under surgical operations."

But even putting it at an *idea*, what degree of knowledge or certainty had he as to that?

On this point we fortunately have Dr. Jackson's letter to Dr. Gay, in which, of course, the full strength of his claim will be set forth.

BOSTON, May 1, 1847.

Dear Sir,—In compliance with your request, I offer you the following account of my experiments and observations, made several years ago, on the inhalation of vapor of pure sulphuric ether. I was previously aware, from the experience of others, and from my own experiments, of the kind of intoxication which is produced by the inhalation of that vapor. It was not known at that time, however, that an insensibility could be produced by this agent, of safe and short duration. I moistened a cloth and laid it over my mouth and nostrils, and laid myself back in a rocking chair, and inhaled the vapor, noticing its effects on the system. The first impression was that of coolness, then a sensation of warmth and exhilaration, with a singular feeling of excitement in the chest. This was followed by a loss of consciousness, from which I in a short time awoke; soon afterwards I entirely recovered from the effects of the ether.

I have frequently inhaled the vapor of sulphuric ether to relieve the irritation occasioned by breathing noxious gases. During the winter of 1841–42, and not long after the experiment above described, I was preparing chlorine gas to be used in a lecture before the Massachusetts Charitable Mechanic Association, and, while collecting the chlorine in large glass bottles filled with boiling water and having their necks immersed in a pneumatic cistern, my assistant, who was holding a bottle, accidentally let it fall, and it broke while my face was quite near to it. I immediately inhaled a large volume of this gas, which nearly suffocated me, so that with great difficulty I got into the house.

As soon as I could get assistance, I sent for sulphuric ether and ammonia, and inhaled them alternately, hoping thus to neutralize the chlorine by the hydrogen of the ether, and the acid so formed by the ammonia. I received some relief for the time, but I was so much depressed, and felt such a weight upon my chest, that I feared I should not be able to give my lecture. I gave it, however, without much difficulty. Afterwards still suffering from the effects of the chlorine, I thought I would try the ether vapor again, and for a longer time. I went, therefore, into my office, which is connected

with my house, and, taking the bottle of pure sulphuric ether from the laboratory, I soaked a folded cloth in it, squeezed it out slightly, and seating myself in a rocking chair, with my feet resting upon another chair, I commenced inhaling the ether from the cloth, which was placed over my mouth and nostrils, while my head was laid back against my chair, so that I was quite at ease in a fixed position. The effects of the inhalation were as before described, excepting that it made me cough at first. I was, therefore, led to believe, that the paralysis of the nerves of sensation would be so great, during the continuance of the insensibility, that a surgical operation might be performed upon a patient under its influence, without giving him any pain; for the loss of consciousness was remarkable, perhaps resembling that of epilepsy more than any other kind of insensibility. I heard afterwards of other cases of this insensibility accidentally produced, and I became perfectly convinced that the inhalation of the ether would be safe; an opinion first formed from my own earlier experiments. I now felt prepared to recommend the trial of sulphuric ether vapor for the prevention of pain in surgical operations. The subsequent history of its application to that purpose is known to you from the evidence of others. I will add, that my interest in the respiration of gases, was first excited by Sir H. Davy's experiments, and that since I became acquainted with them, the subject has always seemed to me to deserve further investigation.

I am, with great regard, your friend,

CHARLES T. JACKSON.

We are not surprised that upon this statement the trustees came to their conclusion, that

"Dr. Jackson does not appear to have made any discovery, in regard to ether, which was not in print in Great Britain some years before."

Indeed, it is astonishing that with such slender materials Dr. Jackson should presume to speak of himself as having it in his power to communicate anything important or new to Dr. Morton.

In 1842 he had breathed ether, and perceived, as Dr. Gay calls it, (p. 7,) "a peculiar sleep or unconsciousness," an effect which thousands have experienced before, an effect produced by opium, recognized in common intoxication, and in that more common phenomenon of sleep, invented before the time of Sancho Panza. He made no attempt to see if there was insensibility to pain. Indeed, we cannot think that the idea of such a thing was in his mind. If it had been, he would have made some trial of it.

At a later period, he inhaled ether as an antidote for chlorine gas: the established prescription. (See Pereira's Mat. Med., and Mr. Hodge's letter, ante, p. 530.)

This is all the experience or observation Dr. Jackson *could* communicate to Dr. Morton, in Sept. 1846.

Mr. W. F. Channing's affidavit is only to the point of the antidote to chlorine, adding that, while he was a student with Dr. Jackson, between 1842 and 1844, "I have heard Dr. Jackson speak on several occasions of the inhalation of sulphuric (hydric) ether, for producing insensibility to pain during surgical operations." Mr. Channing does not say in what manner Dr. Jackson spoke of this notion. Doubtless he communicated to his students what was known and had been suggested by good authorities on this head. Beyond this, he had tried nothing and knew nothing. We must in charity to him, as a man of common humanity, believe that if he had any confidence in such a notion, he would have tried an experiment.

Mr. Joseph Peabody's statement is to the point, that in February, 1846, Dr. Jackson advised him to inhale sulphuric ether while he had a tooth extracted. Mr. Peabody says he asked him what he knew upon the subject of the effect of ether, and that Dr. Jackson then related to him his two experiences of several years before, referred to in his letter. It is evident that these did not satisfy Mr. Peabody, for, after consulting authorities, he declined doing it. This was evidently one of those ordinary suggestions to a person about to undergo a sudden, instantaneous pain from the extraction of a tooth, to try the deadening, stupefying effect of ether, but not pressed nor supported in such a manner as to cause anything to come of it.

The only other witness produced by Dr. Jackson is Dr. S. A. Bemis, whose statement is as follows:—

In September, 1842, "during some conversation that occurred between Dr. Jackson and myself at the time and place above mentioned, and in presence of several other gentlemen, among them Mr. W. F. Channing, of Boston, then an assistant of Dr. Jackson, various remarks were made respecting my own profession; and the subject of pain and painful operations was introduced by Dr. Jackson, as being incident to its practice. Dr. Jackson then remarked that it was his wish to *alleviate* or destroy all sensation of pain and suffering during operations of a surgical nature, and asserted that this result would be secured by the introduction of a new mode of practice in such operations. After making several observations upon the importance of some new *treatment* or agent which would prevent all consciousness of pain, Dr. Jackson said that, if I desired it, he would give or provide me with something which he knew would effect that object, and also proposed to me to introduce the same into my profession."

By looking at the words we have italicized, the reader will see how little this amounts to. It does not appear whether it was to be used in filling teeth, or in destroying the nerve of a tooth, or how otherwise. Nor did Dr. Jackson tell Dr. Bemis what this treatment or agent was to be. He, Dr. Bemis, says that he has no doubt *now* that Dr J. referred to this recent discovery of etherization; but this is, of course, mere matter of conjecture. We think he did not refer to inhalation. After this conversation with Dr. Bemis, Dr. Jackson sent to Dr. Morton, and two other dentists of this city, some nicely prepared chloric ether, recommending it to be applied to killing the nerves of teeth about to be filled, by sealing it up in the tooth, as a substitute for arsenic. We confess we are inclined to think this was the treatment, for alleviating pain under dental operations, which he referred to. At all events, Dr. Bemis, an enterprising man, was not so much impressed with the conversation as to act upon it.

Dr Morton, in his memorial, makes the following statement, the truth of which, he assures us, Dr. Jackson will not deny:

In 1844, ——— and ———, [two ladies of Dr. Jackson's family,] were under my treatment for dental purposes, and it was necessary to extract teeth in each case, the operation being painful and the ladies showing an unusual degree of sensitiveness. The last named lady, in particular, before the extracting of each tooth, remained several hours in the operating chair, unable to summon courage to endure the operation, and begging to be mesmerized, or that I would give her something to make her insensible. Dr. Jackson was present, and made efforts to encourage the lady, but did not suggest any mode of producing insensibility.

It should be borne in mind that these were persons with whose sufferings Dr. Jackson would sympathize intensely; and that this was after the two instances in which, according to his own account, he inhaled ether, and on which alone he now places his claim of pre-discovery.

Dr. Jackson introduces the affidavits of two students, who were in his laboratory, at the time of the interview with Dr. Morton, Mr. Geo. O. Barnes and Mr. James McIntire.

It must be borne in mind that Dr. Jackson admits it was known that ether would produce insensibility. Dr. Warren states "insensibility and exhilaration," as its known and established effects, "understood for many years, not only by the scientific but by young men in colleges," &c. And Dr. Brewster, the distinguished American dentist at Paris, in his letter to Dr. Morton, speaking of Dr. Jackson's claiming to have told Dr. Morton that ether would produce insensibility, remarks—"Why, it required neither a physician nor a chemist to tell you that; as there is scarcely a school or community in our country where the boys and girls have not inhaled ether to produce gayety, and many are the known cases where it has produced insensibility." Insensibility is a word of wide signification. The question is, whether Dr. Jackson knew that ether would produce that wonderful effect which alone entitles this to be called a discovery, and communicated this knowledge or confident belief to Dr. Morton.

Mr. McIntire represents Dr. Jackson as saying only this: "As he [Dr. Morton] was going, Dr. Jackson told him he would tell him something that would make the patient insensible, and that he could do what he had a mind to with them." This is the entire communication, and was made freely, in presence of his students, and without interruption of his occupation. Mr. McIntire represents Dr. Morton as inquiring about ether, as if he were entirely ignorant of it, but this, as appears by all the evidence, was a mistake, arising, however, out of Dr Morton's intentional concealment of the extent of his experiments and designs.

The other witness, Mr. Barnes, represents Dr. Jackson as saying that "perfect insensibility would be produced." Dr. Jackson's meaning, however, is plain; since (as Mr. Barnes testifies) in answer to further inquiries from Dr. Morton, Dr. Jackson "then briefly described his own experiments and their effects." These effects were merely, in his own words, "a peculiar sleep or unconsciousness." And he has, on solemn oath, declared, in the application for the patent, that it was *not* known that the inhalation of ether would "render a person incapable, to a great extent, if not entirely, of experiencing pain while under the action of the knife or other instrument of operation of a surgeon calculated to produce pain." And, in the pamphlet, he says, "It still remained to be ascertained, whether this unconsciousness was so perfect, that, during its continuance, no pain would be produced by wounding instruments."

Mr. Barnes also represents Dr. Jackson as using this phraseology, that the patients "would fall back in the chair insensible; and you can do with them as you please, without their knowing anything about it, or feeling any pain; so that you can take out their teeth at your leisure."

This phraseology is evidently stronger than Mr. McIntire's. If the reader thinks it stronger than Dr. Jackson's sworn statement, and his pamphlet, that is a matter to be settled between Dr. J. and his witness. But perfect accuracy of recollection cannot be expected in a case like the present. Mr. Barnes says that he was engaged, at the time, in an analysis, that the conversation was in two different rooms, and that he did not hear it all. Nearly eight months elapsed before he gave his deposition, and in the interval the subject had become matter of heated controversy and frequent conversation and dispute. Mr. Barnes had continued in the way of intercourse and sympathy with Dr. Jackson, the *esprit du corps* of the office was raised, and Mr. Barnes naturally entered warmly into the feelings and views of his instructor, a native of the same town with himself.

The remarks of Professor Greenleaf, in his Treatise on Evidence, are well deserving of attention in this connection.

Such evidence, therefore, as to *oral declarations*, is very liable to be fallacious, and its value therefore greatly lessened by the probability that the declaration was imperfectly heard, or was misunderstood, or is not accurately remembered, or has been perverted. * * It frequently happens, also, that the witness, by *unintentionally altering a few of the expressions really used*, gives an effect to the statement completely at variance with what the party actually did say.

The truth is, Dr. Jackson told Dr. Morton what was known on the subject of ether, and in describing its effects he used such words as these—stupefaction, unconsciousness, peculiar sleep, insensibility, or the like, it is impossible and immaterial to determine which.

If the reader will compare Dr. Morton's account of this interview, in his memorial, with that of Mr. McIntire, he will see that the difference between them is very slight. Both agree that the conversation began by Dr. Jackson's asking Dr. M. what he was going to do with his bag; that Dr. M. replied in a way to leave the impression

that he intended only to use air; that the conversation then turned on Wells' experiment, and then on sulphuric ether. Mr. McIntire thinks Dr. J. first mentioned ether, but Dr. M. says he drew Dr. J. out on that point, to see if he could tell him anything new.

The statement of Mr. Eddy is conclusive in this connection. Mr. E. is an old and well known inhabitant, occupies a highly respectable position in society, and has held many offices of trust. He has been a strong friend of Dr. Jackson, and Dr. J. would be the last person to call his veracity or accuracy in question.

BOSTON, May 18, 1847.

CALEB EDDY and R. H. EDDY, Esq's:

Gentlemen—The undersigned having been informed that you are in possession of important information relative to the discovery of the new property of sulphuric ether, and of its subsequent history, are desirous that you should, at your earliest leisure, furnish them with such an account of the matter as will elucidate so important a subject.

They will thank you to state how the names of Dr. Charles T. Jackson and Dr. W. T. G. Morton became associated in the letters patent; what share each had, in your opinion, in making the discovery; and any other facts you may choose to communicate tending to the same end.

GEO. HAYWARD,
S. D. TOWNSEND,
SAMUEL PARKMAN,
Surgeons of the Massachusetts General Hospital.

To Drs. GEORGE HAYWARD, S. D. TOWNSEND, SAMUEL PARKMAN, HENRY J. BIGELOW, } Surgeons of the Mass. General Hospital:

Gentlemen—Your favors of May 18th and 20th, addressed to myself and Mr. R. H. Eddy, have been received. As I presume any reply I may make will be made public, I would take the occasion to remark, that, were it not that there now seems no possibility of the controversy existing between Drs. W. T. G. Morton and C. T. Jackson being settled by mutual arbitrament, owing to the refusal of the latter to submit the same to a reference, I should feel an indisposition to make any relation of what came under my notice relative to the discovery in question. I have no wish to rob Dr. Jackson of any honor to which he may be properly entitled, and am governed by no interest further than a desire that he to whom the world is really indebted for making the discovery may receive that reward to which he is justly entitled.

On the evening of Friday, October 23, 1846, Dr. Charles T. Jackson visited my house. During the evening, I requested him to relate to me the particulars of the new discovery for prevention of pain in surgical operations. He stated to me, that Dr. W. T. G. Morton called on him near the latter part of last month to obtain the loan of a gas-bag, which he said it was his intention to use for the purpose of administering atmospheric air, or something else, to a patient to quiet her fears in order that he might extract one of her teeth; that he informed Dr. Morton that his gas-bags were in the attic story of his house, and it would be attended with some trouble to procure them; that Dr. Morton stated that he was desirous of operating on the imagination of the person in some such way as was said to have been practised on a criminal condemned to death, viz.:—by suffering warm water to trickle upon and from some wounded or lanced part of the body while the eyes of the person were bandaged. Dr. Jackson stated, that he told Dr. Morton that such an experiment would prove a failure, and he would be ridiculed for making it; that he had better let her breathe some ether, (if he could induce her to inhale it,) which would put her to sleep, and then he could pull her tooth, and she could not help herself, or could not prevent him by any resistance; that Dr. Morton inquired of him as to the danger and mode of using it. He replied to him, that he might saturate a sponge or cloth with it, and apply it to her mouth or nose. After Dr. Jackson had related the above, I said to him, "Dr. Jackson, did you know at such time, that, after a person had inhaled ether, and was asleep, his flesh could be cut with a knife without his experiencing any pain?" He replied, "No! nor Morton either; he is a reckless man for using it as he has; the chance is, he will kill somebody yet." This is all, or nearly all, of any importance, that I now recollect in relation to the discovery, previous to the application for the patent in which the names of Drs. Morton and Jackson were associated.

With respect, your obedient servant,
CALEB EDDY.

So far as this question is to be affected by external evidence, it is easily dealt with; but when we are asked to rely upon a person's statement of what was in his own mind, what he knew, and what he did not know, unsupported by evidence of corresponding acts and declarations, immediately we become embarrassed. A man may be, as the trustees say Dr. Jackson was, "honestly self-deceived," as to what he knew and thought at a certain previous time. There is a great difference in men as to their estimate of their own knowledge and ideas; depending on various qualities, moral, intellectual, and even physical.

CHAPTER V.

HISTORY OF THE DISCOVERY AFTER THE INTERVIEW WITH DR. JACKSON.

Dr. Jackson left Dr. Morton to try the experiment or not, as he pleased, and in the manner he pleased, and made no inquiries after its success. Dr. Morton, by his statement, shut himself up and inhaled it. The full account of his sensations appears in his memoir. In the evening he gave it to a patient, and extracted the tooth with perfect success.

BOSTON, September 30, 1846.

This is to certify that I applied to Dr. Morton, at 9 o'clock this evening, suffering under the most violent tooth-ache; that Dr. Morton took out his pocket-handkerchief, saturated it with a preparation of his, from which I breathed about half a minute, and then was lost in sleep. In an instant more I awoke, and saw my tooth lying upon the floor. I did not experience the slightest pain whatever. I remained twenty minutes in his office afterwards, and felt no unpleasant effects from the operation.

EBEN H. FROST, 42, Prince Street, Boston.

We witnessed the above operation, and the statement is, in all respects, correct—and, what is

more, the man asked where his tooth was, or if it was out.

A. G. Tenny, Journal Office.
G. G. Hayden, Surgeon Dentist.
Boston, September 30, 1846.

Dr. Morton took this certificate at the moment, and announced the result to all in his office. The next morning he called on Mr. Frost, and ascertained that no bad effects had followed. He then called on Dr. Jackson, told him the result, and requested from him a certificate that it could be safely administered, which Dr. Jackson declined giving. Knowing of Dr. Wells' failure, and the numerous impositions and failures in such cases, he probably set down a part to exaggeration and part to imagination, and thought but little of it. Mr. Barnes, his own witness, says that he told Dr. Morton, "People will not believe in the insensibility to pain in case of a mere tooth, since it is very common for patients in an ordinary case to say that it did not hurt them, when the twitch is very sudden, and the operation skilfully performed; this proof would not be regarded by the public as satisfactory." This is the proper explanation of Mr. Barnes' statement that "Dr. Jackson expressed no surprise;" and not that Dr. Jackson foreknew all that would follow, and alone in the world was not surprised or excited by the result.

Mr. Barnes says that Dr. Jackson advised Dr. Morton to try it at the hospital. But Dr. Morton denies that Dr. Jackson suggested this, although it may have been alluded to between them, and Dr. Hayden's affidavit shows that Dr. Morton had determined to do this before he went to Dr. Jackson.

The subsequent conduct of Dr. Jackson is the best explanation of his then state of mind. He tried no experiment. He witnessed no experiment. No experiment was tried to his knowledge, or under his direction, although he thought the experiment on the tooth not satisfactory. Dr. Morton called on Dr. Warren, and induced him to allow it to be tried at the hospital. He did not name nor refer to, and was not authorized to refer to, Dr. Jackson, even on the point of its safety. Dr. Morton tried experiments every day, at his rooms, with various success. It got into the newspapers as Dr. Morton's discovery, and was not contradicted. On the 16th October, the first experiment was tried at the hospital; Dr. J. C. Warren performing the operation of cutting a tumor from the side of a man's neck. The next day, the experiment was repeated, when Dr. George Hayward removed a tumor from an arm, which was a severe, if not a capital operation. In both these, Dr. Morton alone conducted the experiment, and was alone responsible. The whole medical and scientific world, newspapers and the public mind, were in the highest excitement. But Dr. Jackson did not appear at all in the business. Not a physician or surgeon at the hospital heard or suspected, then, that Dr. Jackson had any connection with the discovery. Although the hospital is within four minutes' walk of Dr. Jackson's house, and laboratory; although he was personally acquainted, and had been so for years, with all the surgeons and physicians of the hospital, and was near neighbor to some of them, and met some one or other of them almost daily; although Dr. Morton's office, where the dental experiments were going on, was even nearer to him than the hospital; yet he does not move from his laboratory even to see an experiment. He is a chemist and experimenter by occupation, a physician, too, by education. The greatest discovery of the age was under test, in the next street. Lives were at stake. Humanity, ambition, everything there was to lead him to act. But he keeps entirely aloof. "More than one witness," says the trustees' report, "distinctly remembers that the expression, 'I don't care what he does with it, if he does not drag my name in with it;' and others of similar import, were used by Dr. Jackson in relation to Dr. Morton's early experiments in confirmation and establishment of this discovery."

Mr. R. H. Eddy, whose letter we shall give hereafter, says, "I am fully persuaded that at this time [about Oct. 25th] Dr. Jackson thought the whole matter of little value or importance. The conversations I had with him led me to this belief." Mr. Francis Whitman, the witness whom Dr. Gay admits to be unimpeachable, says, "After the first announcement of the discovery in the papers, I went to Dr. Jackson's, and he spoke to me of some notices in the papers; but, immediately after, said he did not care how much Dr. M. advertised, if his own name was not drawn in with it."

We look in vain for an explanation of this conduct, in his pamphlet, or in anything that has come from him or his friends. The only explanation offered makes the case worse. It is said that he refused his sanction, and kept away from the experiments, from want of confidence, in Dr. Morton's skill and prudence, and fear of his recklessness. But this comes with ill grace from Dr. Jackson, who founds his whole claim to the benefit of these experiments on Dr. Morton's being his agent, his mere servant, acting under his authority, and on his responsibility. (See Dr. Gay's pamphlet, passim.) He had known Dr. Morton for years. Why did he select such an agent, and leave the whole thing entirely in his hands, if he thought him unfit and reckless? why did he not break off the relation? why did he not take the experiments into his own hands? why did he not, at least, appear and watch over these vital experiments, and give his aid and advice, to prevent danger and ensure success?

The fact is, no answer can be given. It is inexplicable, except upon the supposition, to which the trustees and surgeons of the hospital, and many of his personal friends, have come, and all must come, that he had not sufficient confidence in the thing itself to risk the connection of his name with it.

That there may be no question that these facts, as to the experiments, are correctly stated, we refer to the trustees' report, Dr. J. C. Warren's work on etherization, Dr. Geo. Hayward's pamphlet, Dr. J. Mason Warren's pamphlet, and Dr.

Henry J. Bigelow's tract, read before the Society of Medical Improvement and before the academy. The report of the trustees says, "Certainly, then, with respect to all these subsequent experiments, (at the hospital,) Dr. Jackson is free from the least responsibility; and this alike, whether he doubted the safety of the application, or only, as it would seem, the competency of Dr. Morton to administer it safely. In either case, the risk was wholly confined to Dr. Morton and the surgeons of the hospital."

The third experiment was performed at the hospital on the 7th November, which was the amputation of a leg above the knee, by Dr. Hayward. Here, again, no one was known but Dr. Morton. The following passage from Dr. Morton's memoir was read by the editor to Drs. Hayward and Townsend, and he is authorized by them to say that it is true. "*On the second day of January*, 1847, *Dr. Jackson did the first act indicating to the surgeons that he had any interest in the subject.* On that day he called at the hospital with some oxigen gas as an antidote for asphyxia, which he heard was produced by the ether. But before this time the surgeons had satisfied themselves that asphyxia was not produced. With the single exception of an intimation to Dr. Warren, which appears in his communication, none of the surgeons or other persons engaged in these experiments had received any idea, from Dr. Jackson himself, or from his conduct, that he was in any way connected with this discovery, responsible for the use of the preparation, entitled to the credit of its success, or liable to the odium of its failure."

The intimation to Dr. Warren, referred to, was as follows. After the second operation at the hospital, when the discovery was getting into good repute, in the latter part of October, Dr. Warren meeting Dr. Jackson, Dr. Jackson told him that he suggested to Dr. Morton to use ether in operating on teeth. But he took no responsibility, and neither advised nor attended any operation, and Dr. Warren made so little account of this intimation, that he did not speak of it to the other surgeons, and everything went on as it had gone, upon the responsibility of Dr. Morton alone.

The conduct of Dr. Morton certainly presents a contrast to this. On the afternoon of Sept. 30th, at the risk of his life, or of unknown personal injury, Dr. Morton inhaled the sulphuric ether to the extent of entire unconsciousness. His own account of this is in his memorial. He then tried the experiment on Mr. Frost. So confident was he of the importance of the discovery, that he took Mr. Frost's certificate the same evening. He then requested leave of Dr. Warren to try an experiment at the hospital, which was granted, and the time fixed at the 16th October. In the interval he was constantly engaged in trying experiments at his office, some with more and some less success. In one instance, where a boy was made sick by the ether, Dr. Morton was threatened with a criminal prosecution by the parents. The details of these dental experiments are found in Dr. Morton's circular, and many of them were witnessed by Dr. H. J. Bigelow, and noticed by him in his paper above referred to. Dr. Morton's brother dentists organized an opposition to the ether, and attacked the professed discovery with extraordinary bitterness, and in formidable numbers, as we shall show hereafter. All this, Dr. Morton bore alone. In the dark and doubtful days of this era, Dr. Morton had the whole weight upon his shoulders, and never for a moment sought to lay any part of the burden upon another. He was obliged to give exclusive attention to etherization, and his dental business almost entirely fell away. On the night before the first experiment at the hospital, Dr. Morton sat up very late at night with Dr. Gould, (as we are authorized by Dr. G. to say,) contriving the most proper apparatus for administering the ether, and Dr. G. suggested the valvular system instead of that which Dr. Morton had previously used. A diagram was drawn, and the next morning Dr. Morton was early at Mr. Chamberlain's, and remained there, superintending the making of the apparatus, until the hour of the experiment. So anxious was he to have it take place, that he took Mr. Frost with him, at considerable expense, that he might assure and encourage the patient, in case he feared to take the ether. The next day he administered it during Dr. Hayward's operation. It was at his request that the third, and most decisive experiment took place. From the day of the first experiment forward, it is safe to say that Dr. Morton hardly knew a full night's rest, or a regular meal, for three months. He administered the ether in every surgical experiment that was tried in Boston, as far as has been ascertained, at least up to the first of January, and it is supposed that for a still longer time it was not administered by any who had not either seen it administered by Dr. Morton, or received particular instructions from him; while it is not known that to this day Dr. Jackson has administered it once during a surgical operation. Letters came in upon Dr. Morton from all parts of the country. He has shown the editor ten bound volumes, containing about 2,000 letters received by him on this subject, between Oct., 1846, and July, 1847. He was obliged to employ a secretary to answer these communications, to increase his accomodations at great expense; his dental business was neglected, and he risked all, labored, expended health, time, and money, on this discovery. He issued circulars, giving detailed accounts of the experiments, and kept a minute journal of events, experiences and suggestions. He had great numbers of the inhaling apparatus made and presented to various surgeons and charitable institutions, at home and abroad; and, through his agents, sent several very costly ones to the chief sovereigns of Europe.

In this connection it is proper to notice the independent and liberal course taken by the surgeons of the hospital. They allowed the experiment to be made, when it came to them well at

tested by Dr. Morton and his patients. They persevered in permitting the experiments, although the outcry and opposition from neighboring cities, and from many in Boston, was formidable.

Beside the responsibility attached to the surgeons who performed the operations, and to all the surgeons of the hospital, for joining in permitting the experiments, we are bound to acknowledge the especial aid received from some of them. Dr. Henry J. Bigelow being satisfied by examination of the earliest experiments of the wonderful value and general applicability of the discovery, was the first to commit himself to it, by a published document; and identified himself, irrecoverably, with its fate, by a valuable memoir to the academy and the Medical Society, presented when the result in the minds of most persons, was uncertain. The other surgeons of the hospital, Drs. J. C. Warren, Hayward, Townsend, J. M. Warren, and Parkman, from time to time, continued to render valuable aid by authorizing and performing various experiments and publishing, in their own names, accounts of the phenomena, and with suggestions on the chief points of interest and importance.

Some idea of the attacks which the friends and patrons of this discovery had to endure, may be derived from the following extracts from the leading scientific journals of New York, Philadelphia, and other cities.

Robert M. Huston, M. D., editor of the Philadelphia "Medical Examiner," speaks in this wise: "A certain Dr. Morton, a practising dentist in Boston, is advertising, in the newspapers of this city, that he has received a *patent* for what he calls 'his improvement, whereby pain may be prevented in dentistical and surgical operations;' and he now offers to sell 'licenses to use said improvement,' to dentists, surgeons, and other suitable persons. Looking upon this as nothing more nor less than a new scheme to tax the pockets of the enlightened public, we should not consider it entitled to the least notice, but that we perceive, by the Boston Medical and Surgical Journal, that prominent members of the profession in that city have been caught in its meshes." Again: "We are persuaded that the surgeons of Philadelphia will not be seduced from the high professional path of duty, into the quagmire of quackery, by this Will-o'-the-wisp." And again: "We cannot close these remarks without again expressing our deep mortification and regret, that the eminent men, who have so long adorned the profession in Boston, should have consented for a moment to set so bad an example to their younger brethren, as we conceive them to have done in this instance. If such things are to be sanctioned by the profession, there is little need of reform conventions, or any other efforts to elevate the professional character: physicians and quacks will soon constitute one fraternity."

William C. Roberts, M. D., editor of the New York "Annalist," thus states his objections: — "By and by we may see 'Morton's Antipathetic Inhalation' puffed in an article, to which shall be appended the honored names of Warren, Bigelow, and Pierson; and wherein, we ask, will it differ from the objectionable contributions of others, quite as high, to Swaim's Panacea?" In another place he says: — "The last special wonder has already arrived at the natural term of its existence, and the interest created by its first advent has, in a great measure, subsided. It has descended to the bottom of that great abyss, which has already engulphed so many of its predecessor novelties, but which continues, alas! to gape, until a humbug yet more prime shall be thrown into it." And again, in speaking of the use of ether in London: — "We regret to observe that Mr. Liston is so negligent of what is due to the dignity of his profession, and of his own duty as a member of it, as to have employed this patented nostrum."

Charles A. Lee, M. D., editor of the New York "Journal of Medicine," says: — "We are sorry to see many of our brethren, at home and abroad, stooping from the exalted position they occupy in the profession, to hold intercourse with, and become the abettors of, quackery in any form. Such doings are certainly contrary to the ethics of the profession, and should not be tolerated for a moment in any one."

Drs. W. M. Carpenter, E. D. Fenner, J. Harrison, and *A. Hester*, editors of the New Orleans "Medical and Surgical Journal," offer the following sentiment on this subject: — "That the leading surgeons of Boston could be captivated by *such an invention as this*, heralded to the world under the auspices of a *patent right*, and upon *such* evidences of utility and safety as are presented by Dr. Bigelow, excites our amazement. Why, *mesmerism*, which is repudiated by the *savans* of Boston, has done a thousand times greater wonders, and without any of the dangers here threatened. What shall we hear next?"

The chairman of a committee of Congress, to whom the matter was referred of introducing the use of the Letheon into the army and navy, addressed Prof. D. T. Mütter, of Philadelphia, on the subject, asking him if it could be "*usefully* employed in the practice of surgery in the manner proposed by Dr. Morton." To this he replied: — "On this point, there is in my mind *not the slightest doubt*. I cannot consider any agent generally useful that unquestionably subjects the patient to the risk of *losing his life*." And, in another place, in his letter, he says: — "The peculiar method of Dr. Morton is, consequently, of no value, since others accomplish the same ends without the use of his patented apparatus. But granting that his measures are peculiar and even better than those of others, I trust the day is far distant when we shall find so distinguished a body as our national Congress, lending itself to the advancement of quackery in any shape."

The editors of "The American Journal and Library of Dental Science," published in Baltimore, say: — "Great interest has been excited, both in professional circles and in the public mind, by an announcement, in the Boston Medical and Surgical Journal, that a Mr. Morton, of Boston, has discovered a gaseous preparation of a nature so exquisitely anodyne as to fulfil the great desideratum in surgery." Also: — "The effects resulting from, or at least liable to result from, the inhalation of the vapor of sulphuric ether, are, in our opinion, more to be dreaded than the pain of almost any surgical operation. We would, therefore, caution our professional brethren against the use of an article capable of producing such sudden, powerful, and dangerous effects."

The dentists of Boston entered into a systematic and organized opposition. They appointed a

committee of vigilance to ascertain and publish every instance in which experiments had failed, or produced unfortunate effects. A communication in the shape of a report from a committee of twelve dentists, of which Dr. J. F. Flagg was chairman, appeared in the Daily Advertiser of Dec. 12, 1846, in which several cases were detailed, (the names of patients not being given,) where serious results had followed inhalation. Young ladies were represented as leaving Dr. Morton's office delirious, and remaining so for several days, with bleeding at the lungs, melancholy, and other dreadful results. They admit that inhalation may be used to good purpose in surgical cases, under the care of men of thorough scientific training, at once chemists and physiologists; but give their opinion that it will prove to be of little use in dentistry, and especially warn their fellow-citizens against trusting themselves to men not possessed of certain indicia and certificates from colleges or medical schools, not physiologists and pathologists,—in short, such men as their brother dentist, *Mr.* Morton. As these dentists used the ether themselves so soon as it appeared that the patent could not be enforced, their warning and opinion have no new value; but, at the time, their manifesto was a most serious obstruction to the success of Dr. Morton, and was quoted throughout the Union, as evidence against the utility and safety of etherization itself.

CHAPTER VI.

SUBSEQUENT HISTORY OF THE DISCOVERY.

The next stage in this history is the procuring of the patent right by Dr. Morton. The gentleman whose evidence throws the most light upon this, is R. H. Eddy, Esq., a civil engineer and commissioner of patents. Mr. Eddy is well known in our community as a man of intelligence and honor, and the trustees say his testimony is "entitled to the most implicit credit."

The 23d day of October, nearly a week after the second experiment at the hospital, and when the discovery had been taken up by men of distinguished name, Dr. Jackson, *for the first time since the discovery was announced*, saw Dr. Morton. He called at Dr. Morton's office, where an interview took place, the account of which is drawn from Dr. Morton's memoir.

On the 23d October, I saw Dr. Jackson for the first time since the interview last described. I take my account of this interview from a memorandum made at the time, the accuracy of which is attested by two witnesses of the highest respectability who were present. He said he thought he would just look in, that he heard I was doing well with the ether, and learned from Mr. Eddy that I intended to take out a patent, and would make a good deal by it. I replied that it had been a cause of anxiety and expense to me, but that I thought I should now do well with it. He said he thought so too, and that he believed he must make me a professional charge for advice. I asked him why in this case, more than in any other case of his advice, arising out of our previous relations, as mentioned at the opening of this memoir. He said that his advice had been useful to me, that I should make a good deal out of the patent, and that I ought to make him a compensation. I told him I would do so if I made much by the patent, independent of what I gained in my business. He then said he should charge me $500. I told him I would pay him that, if ten per cent. on the nett profits of the patent amounted to so much. He said he was perfectly satisfied with this arrangement, and so the interview ended.

The next morning he told Mr. R. H. Eddy what had passed, and two or three days afterwards Mr. Eddy suggested to me that instead of paying Dr. Jackson a fee, I should interest him in the patent, and give him ten per cent. of the nett profits. Mr. Eddy made this suggestion out of friendship to Dr. Jackson, whom he wished to benefit. He added that the patent would thus have the benefit of Dr. Jackson's name and skill; that he would thus have a motive to give his attention to the preparation and the apparatus, and we should be able to keep in advance of the improvements that might be suggested by others. He also said that if a suit was brought, and Dr. Jackson should be a witness, as he doubtless would be, the aid he had given me might be made a handle of by persons impeaching the patent, to invalidate my claim as the discoverer. At this time the dentists had organized a formidable opposition to the use of ether, and all the medical magazines in the Union, except Boston, were arrayed against it. I felt the need of all the aid I could get, and was conscious of a want of thorough scientific education myself. I was induced by these motives to accede to Mr. Eddy's request, but did not then understand that Dr. Jackson claimed to be a discoverer at all. But on this head I refer to the affidavits of the Messrs. Eddy.

This statement is confirmed by the following letter from Mr. Eddy, drawn out by the letter from the surgeons of the hospital, given above. The italics are by the editor.

Boston, May 22, 1847.

To Drs. Geo. Hayward, S. D. Townsend, Samuel Parkman, H. J. Bigelow, } Surgeons of the Mass. General Hospital:—

Gentlemen—I have received your communications of the 18th and 20th instant, in which you state that you have understood me to be "in possession of important information relative to the discovery of the new property of sulphuric ether, and of its subsequent history," and are desirous that I should "furnish such a statement of the matter as will elucidate so important a subject;"—also, "to state how the names of Drs. C. T. Jackson and W. T. G. Morton became associated in the letters patent, and what share each had, in my opinion, in making the discovery." "Also, any other facts I may choose to communicate tending to the same end."

The friendly relations which, for many years, have existed between myself and Dr. C. T. Jackson, have heretofore caused me to refrain from making known many facts in my possession in relation to the late discovery of the new effect of sulphuric ether. The difficulties, between him and Dr. W. T. G. Morton, I hoped to see settled by an impartial reference—one, where the evidence, produced by both parties, could be subjected to a rigid

examination, in order that truth might be elicited, and strict justice rendered to whichever of those gentlemen such a tribunal should accord the chief merit of making the discovery. I have earnestly recommended Dr. Morton, whenever an opportunity has presented, to induce Dr. Jackson to submit the matter of the discovery to such a reference. Accordingly, it was a cause of much gratification to me to learn, that a proposition of Dr. Morton to do so, had received the favorable consideration of Dr. Jackson. I find, however, my anticipations have not been realized. Dr. Jackson, after having consented to refer the case, and after delaying, a long time, to agree on a suitable umpire, has, as I learn, utterly refused to submit his claims to a just arbitration. Under such circumstances, I feel it a duty to make known to you a few facts. My business engagements prevent me from stating a particular history of much that has come under my observation in relation to this matter. I shall, therefore, endeavor to confine myself to a simple statement of what I was witness to, from the time I first heard of the discovery until a patent was applied for on it in this country.

Within a few days of Sept. 30, 1846, I think the 1st of October, Dr. W. T. G. Morton called on me at my office, *stated to me that he had made an important discovery*, by which he could extract teeth without pain, and desired to learn from me whether it could be secured by a patent. After replying to him that he must state the nature of it, before I could render him any definite opinion, he informed me, that he used sulphuric ether, by administering it by inhalation in a state of vapor. He mentioned, that he had extracted a tooth without the patient being sensible of the operation, and that, on awakening from the sleep into which he had been thrown, he was much surprised to find his tooth drawn and lying on the floor.

I stated to Dr. M. that, as to the patentability of the discovery, I had some doubts; but that I would consult the law, and the various legal decisions on the subject of patents, and advise him of the result. After this, I saw Dr. Morton not more than once, I think, if once, until Wednesday, the 21st day of October. In the mean time, I had read several articles in the newspapers relative to the experiments performed at the Massachusetts General Hospital, and had understood, from Dr. Charles T. Jackson, that he had had some connection with Dr. Morton in making the discovery. My reflections on the subject led me to the belief, that a patent could be obtained in this country, and, on the 21st day of October, Dr. Morton having called at my office, I so informed him. I stated to him that, from what I had learned from Dr. Jackson, I considered the discovery to be a joint one, and that the patent, if applied for, must be conjointly by him and Dr. Jackson. In rendering such advice, I was fully impressed with the belief, from the statements of Dr. Jackson, that he, Dr. J., had suggested to Dr. Morton the propriety of experimenting with ether —that Dr. Morton, without the presence or further assistance of Dr. Jackson, had practically demonstrated the effect of ether to annul pain. Upon this I reasoned, that, had Dr. Morton kept the discovery secret, neither Dr. Jackson nor the world would have known of the result; or, in other words, had Dr. Morton not performed the experiment that he did, the discovery made could not have taken place;—also, that had not Dr. Jackson given Dr. Morton the *idea* of using ether, neither Dr. Morton nor the world would have known of the discovery. It seemed to me to be a clear case of joint invention or discovery. *Dr. Jackson had admitted to me that he had never performed a surgical operation of any kind on a patient, under the influence of inhaled ether.*

In reply to my remarks to Dr. Morton, *he stated that he did not know by what right Dr. Jackson should have any interest in the patent, as he (Dr. M.) had an understanding with Dr. Jackson to fully remunerate him for any advice he might have rendered him.* In order to satisfy myself more fully as to the position of Dr. Jackson in this discovery, and the understanding between him and Dr. Morton, I called at the office of Dr. Jackson the next morning. I cannot recollect the precise conversation which ensued at this interview, but the substance of it was, that Dr. Jackson informed me that, by the laws of the Massachusetts Medical Society, he would be prevented from joining with Dr. Morton in taking out a patent, as he would be expelled from the association if he did so. *He further stated, that he intended "to make a professional charge of $500" to Dr. Morton, for the advice he had given him, and that Dr. Morton had acceded to this;* that he did not wish his name connected with Dr. Morton's in any manner; that Dr. Morton might take out a patent if he desired to, or do what he pleased with it. I made inquiries as to the assistance rendered Dr. Morton, and asked Dr. Jackson if he had ever tried any experiments to practically demonstrate the fact that the inhalation of ether would prevent pain during a surgical operation. *He informed me that he had not. I am fully persuaded that Dr. Jackson, at this time, thought the whole matter of little value or importance. The conversation I had with him led me to this belief. He supposed Dr. Morton might realize something from it in his business of dentistry, and was willing he should do what he pleased with it, so long as he did not couple his (Dr. J.'s) name with it.* I afterwards inquired of Dr. Morton whether he had agreed to give Dr. Jackson $500 for the assistance rendered, as well as for all the doctor's interest whatever in the discovery. He said that he had, and that he had agreed to pay him at the rate of *ten per cent.* on the sale of licenses until the $500 was paid.

On Friday evening, Oct. 23d, on my return to my residence after a visit to the theatre, I found Dr. Jackson in conversation with my father, Caleb Eddy, Esq., and waiting to see me. At this interview, I urged Dr. Jackson to waive his objections to associating with Dr. Morton, as I was confident that he was mistaken in his views of what would be the action of the Medical Association; that Dr. Morton could not properly take out a patent without him; and that, by joining in the patent, he would, of a certainty, be obtaining *credit as a discoverer;* whereas, should he not do so, he might lose all credit, as in the case of the Magnetic Telegraph, which I had understood from Dr. Jackson he had suggested to Professor Morse.

The next day, or within a few days after, I called on Dr. Augustus A. Gould, to learn from him the nature of the rules of the Medical Society. Dr. Gould I knew to be a personal friend and a well-wisher of Dr. Jackson. He exhibited to me a copy of the by-laws, in which I found they only provided, so far as I could see, that no member should deal in secret remedies. I perceived at once from them, that no objection could arise to Dr. Jackson's patenting any invention he might make, as it would cease to become secret the moment it might be patented. I understood Dr. Gould to coincide with me in my

views. After preparing the specification, I submitted it to Dr. Jackson, who fully approved it. I next had it copied in a manner suitable to be signed and sworn to by the parties.

I recommended to Dr. Morton to allow me to insert, in the written agreement to be made between him and Dr. Jackson, ten per cent. on all sales of licenses, instead of ten per cent. until the amount to be paid would reach $500; advised him to be liberal towards Dr. Jackson, both in giving him credit, and a chance of profit. In this, I was governed by a sincere desire to benefit Dr. Jackson, while, at the same time, I supposed I was doing my duty to Dr. Morton, as I believed it would be for his interest to do so. I thought the chemical science of Dr. Jackson would be brought to improve the article used, or to produce a better quality of ether than could be found in the market; that his association with Dr. Morton would give immediate character to the discovery, and his future advice might be of great service to Dr. Morton.

My views seemed to strike Dr. Morton very favorably, and he acquiesced in them.

Here I would remark that he (Dr. M.) had never *informed* me of any experiments with ether, which I have since understood he made previous to his obtaining advice in relation to it from Dr. Jackson. This I can readily account for, as I saw very little of him, from the 21st to the 27th of October, the latter being the day on which the papers for the application for the patent were executed by the parties.

Dr. M. was so much engaged in his discovery and business of dentistry, that I found it exceedingly difficult, if not impossible, to obtain an audience with him. His office was constantly thronged with persons in waiting to consult him on professional and other business. Had Dr. Morton, during this time, stated to me what I have since read in the affidavits of Dr. G. G. Hayden, Messrs. W. P. Leavitt, T. R. Spear, Jr., and F. Whitman, I am confident I never should have advised him to associate Dr. Jackson in the discovery or patent, as I should have concluded *that his friendly intimacy with Dr. Jackson had led him to visit him, as the readiest manner of obtaining certain chemical information respecting ether and its properties, which might be found in various scientific or medical works not conveniently accessible to him.*

I should have considered that the idea of using ether was an original one with Dr. Morton; that he had, by a practical application of it, made the discovery that it would annul pain under the operation of a surgical instrument; had been the first to publish this to the world, and under peculiar circumstances, in which he had developed much of that remarkable energy of character we often find to belong to most great inventors, who are generally obliged to stem a powerful current of difficulties and risks, in order to impress on the community the importance of their discoveries. With such views, I do not hesitate to affirm that I should have accorded the discovery to him.

On Tuesday morning, the 27th of October, Drs. Morton and Jackson executed the papers for the American patent. While Dr. Jackson was passing from his office to my own, I informed him that I had seen Dr. Gould, and he had shown me the laws of the Medical Association; that Dr. G.'s opinion and mine coincided as to what was meant in them by the prohibition of secret remedies; that such could not be *patented* ones, as *they* (the latter) could not be secret. He replied, "Well, if Dr. Gould thinks so, that settles the matter with me. I have no objections to signing the papers with Dr. Morton." I think I give nearly, if not exactly, the words made use of by him.

I would here remark, that I had found Dr. Jackson tinctured with old and exploded prejudices against patents, and I labored to remove them. So successful was I, that he subsequently informed me that, after a consultation with a distinguished chemist at the south, he had resolved to secure every invention he might hereafter make; and, in accordance with such views, he sent me the specification of an alleged improvement in preparing a certain article for dentistry purposes, with the view of filing a caveat and taking out a patent on the same. His disinclination to associate with Dr. Morton, in a patent, arose from no disposition, ever evinced to me, to give the public a *gratuitous* use of the discovery. The most important objection to his taking out a patent arose from what he supposed would be the action of the Massachusetts Medical Association.

In conclusion, I would remark that I have endeavored to state a few facts relative to the early discovery of the effect of sulphuric ether in surgical operations. In doing so, I am influenced by no other motives than to render justice to whom it may be due. It is a matter of indifference to me to whom the world may ultimately accord the merit of being its benefactor for having given to it the great discovery in question. Dr. Jackson has been my personal friend for many years. With Dr. Morton, I have had, comparatively, but little acquaintance, never having seen or known him previous to my introduction to him while he resided in the family of Dr. Jackson. My sympathies would naturally tend towards Dr. Jackson; but personal friendship, private character, or scientific attainments, are matters which, it seems to me, ought not to prejudice me or any one else in favor of or against either of the claimants, when judging of the merits of their respective claims.

Yours respectfully, R. H. Eddy.

Commonwealth of Massachusetts.

County of Suffolk, } ss. June 18, 1847.
City of Boston. }

Then personally appeared the above-named R. H. Eddy, and being duly sworn, did declare that his statements, contained in the foregoing letter, by him subscribed, are true, according to the best of his recollection, knowledge, and belief.

Before me,

John P. Bigelow, *Justice of the Peace.*

On this subject of the patent, the trustees, after regretting the attempt to secure an exclusive right, remark as follows:—"Dr. Jackson's name would not have been associated in the patent, but at the instigation of R. H. Eddy, Esq., the commissioner, who has publicly avowed that he acted under a mistaken apprehension of facts, and now awards to Dr. Morton the sole honor of the discovery, which at the time he supposed might fairly be regarded as a joint one. Mr. Eddy's intelligence and truthfulness, and his sincere friendship to Dr. Jackson, are well known in this community."

Mr. Eddy's was a legal duty. He felt himself bound to secure the legal validity of the patent at all events; to give his client not only a good patent, but one which would be undisputa-

ble. Mr. Eddy overrated, as he says, Dr. Jaekson's share in the discovery, and, under this mistake, advised Dr. Morton that the patent would not be good unless Dr. Jackson was included in the application; the principle being, that an exclusive patent is not valid, if any person joining in the discovery does not join in the application. Dr. Morton replied that he did not know what right Dr. Jackson had in it. As a general question, Dr. Morton had no doubt that he alone was the diseoverer. But the present was a legal, a teehnical question, upon which he was not qualified to judge. How far the advice Dr. Jaekson had given him, whieh aided him in the diseovery, required, on prineiples of patent law, which are ehiefly statutory, that Dr. Jackson should be included in the applieation—this he must leave for Mr. Eddy to decide. Mr. Eddy further suggested, that in ease the validity of the patent should be contested, any third party could make trouble for Dr. Morton, by insisting on Dr. Jackson's being, in however small a degree, a joint discoverer. Mr. Eddy further urged that by this arrangement Dr. Jackson would have a motive for giving his attention to the subject, and bringing his scientifie skill to bear in preparing the ether, and modifying the apparatus, so that the patentees eould keep in advanee of improvements that might be made by others. Overborne by this reasoning, Dr. Morton assented to Mr. Eddy's proposal.

The manner in which he was led to this, and the mistake of facts under which the advice was given, are quite sufficient to show that Dr. Morton is not estopped, legally or morally, from maintaining the ground he has always taken on the general question, that he is the only discoverer, in the true sense of the word

But it is far otherwise with Dr. Jackson. He knew that Dr. Morton had applied for an exclusive patent, and offered no objection, but was satisfied with making a charge for professional advice. At Dr. Morton's request the payment of this eharge was made to depend on the suceess of Dr. M.'s patent. The idea of a right in the patent eame only from the partiality and legal caution of his friend, Mr. Eddy. Adopting this suggestion, he not only made no objection to Dr. Morton's being joined in the application, but was glad to be iucluded in it himself, even at the lowest rate of compensation.

The following statement of the subsequent history of the patent, is taken from minutes made by Mr. Eddy, while the transactions were fresh, and has been read to him, and pronounced to be correct.

After Dr. Jackson had signed the application, and released all the elaim he might have to Dr. Morton, for ten per cent. of the profits, Mr. Eddy took steps to procure a patent in foreign countries. On examining the law of Franee, he became satisfied that until the patent was granted here, one could not be obtained in France, except on joint application. It would not do to wait for the patent from Washington, as the application should go in the next steamer, of the 1st November. He therefore applied to Dr. Jackson to sign the necessary papers. At first he consented, then suggested that he should have the same percentage that he had received here. Mr. Eddy was clear in his opinion that Dr. Jackson had no interest, and told him so; but Dr. J. insisting, and there being no time to spare, it was agreed that the papers should be sent, and that if the question of Dr. Jackson's right to any compensation could not be settled between the parties, it should be left to referees.

In the early part of November, Dr. Jackson was absent about a week or ten days, and returned on the 14th. In the mean time, Dr. Henry J. Bigelow read his paper before the American Academy, and the third and decisive experiment had been tried at the hospital. On the 15th, Mr. Eddy called on Dr. Jackson, and *then for the first time, as Mr. Eddy assures us, Dr. Jackson claimed the entire discovery as his own.* Mr. Eddy was astonished beyond measure at this, and reasoned with Dr. Jackson upon it, but to no purpose.

On the 16th of Nov., the steamer was to sail for Europe. On the morning of that day, Dr. Jaekson and his attorney, F. B. Hays, Esq., called on Mr. Eddy, and demanded for Dr. Jackson a certain per centage in the European patents. Mr. Eddy declined to grant it. He was then told that unless it was granted, Dr. Jackson would send a communication to Europe by the steamer of that day, which he had already prepared, that would defeat the European patents altogether. After a long discussion, to avoid the obstruction Dr. Jackson might throw in the way of the patent, Mr. Eddy agreed to allow Dr. Jackson ten per eent. of his half in the European rights, leaving him to make what arrangement he could with Dr. Morton. This agreement was then distinctly made: that Dr. Jackson should not send any communication whatever to Europe, or interfere with the present state of things; that Mr. Eddy should allow him ten per eent. of his half of the foreign patents, the arrangement with Dr. Morton to be matter of subsequent agreement, or arbitration.

It is understood that Mr. Hays and Dr. Jackson interpret the proposition to have been, ten per cent. of the whole, from each half owner, being twenty per eent.; while Mr. Eddy says it was ten per cent. of each half, being ten per cent. of the whole.

On the faith of this agreement, Dr. Morton acted. He erased from his pamphlets and circulars, all language relating to the eredit of the discovery, and simply styled himself the patentee. He issued and distributed in America and Europe, at great expense, eirculars, giving full accounts of the scientifie bearings of the discovery, and eertainly much valuable information; and in them studiously suppressed all allusions to the merit of the discovery. And when urged, by persons of the highest authority, to put forward a full statement, he replied that he was bound, by his agreement, to await a decision of arbitrators.

While Dr. Morton was pursuing this course, in the latter part of January, or the early part of

February, the news came from Europe, that a paper had been read by M. Elie de Beaumont, before the Academy of Sciences at Paris, in which this discovery was announced as that of Dr. C. T. Jackson, of Boston; Dr. Morton's name not being even mentioned, and all the experiments, at the hospital and elsewhere, stated as made by the request and direction of Dr. Jackson. Still more were the intimate parties astonished, to find that this communication was made from a letter from Dr. Jackson himself to M. Elie de Beaumont, dated Nov. 13th, and sent out to Europe after, and in direct violation of, the agreement with Mr. Eddy.

His letter is long, but all that relates to the present subject is as follows:

I ask leave to communicate, through you, to the Academy of Sciences, a discovery which I have made. * * * I have latterly put it to use, by inducing a dentist of this city to administer the vapor of ether to persons from whom he was to extract teeth. I then requested this dentist to go to the General Hospital of Massachusetts, and administer the vapor of ether to a patient about to undergo a painful surgical operation; the result was, &c., [describing the three operations and their effects.]

The gross injustice of entirely suppressing Dr. Morton's name, and claiming the sole credit of the discovery, and of the experiments at the hospital, created no little indignation, and was the first thing that decidedly changed the sympathies of many who had heretofore endeavored to favor Dr. Jackson, and had thus, though unintentionally, done some injustice to Dr. Morton.

In the mean time, not suspecting this step of Dr. Jackson's, Mr. Eddy, in behalf of Dr. Morton, had, on the 23d Nov., proposed a settlement of Dr. Jackson's share in the European rights. Dr. Jackson referred him to Charles G. Loring, Esq., as his senior counsel and adviser. Mr. Loring was very much engaged before the supreme court, then in session, and the negotiations were delayed. On the 28th of January, Mr. Loring, in conjunction with Mr. Hays, wrote a letter in behalf of Dr. Jackson, addressed to Dr. Morton and Mr. Eddy, from which we make the following extracts.

It seemed best that the differences between Dr. Jackson and yourself should not be made public; on the contrary, that it should be generally understood the difficulties were in the course of adjustment. * * * We have uniformly said, when inquired of, that we were making arrangements that we hoped would distribute the profits of the discovery in such a manner as would be satisfactory to all parties.

Under the present circumstances of the case, we think the least that, in justice to yourselves and Dr. Jackson, you can offer, is 25 per cent. of the profits arising from the invention, both at home and abroad, in settlement of his claim upon you. * * *

It is our wish to settle the matter amicably, if possible. We hope you will see, by our suggestions, that we wish only to have a fair distribution of the profits of a discovery made among those who cannot, if they disagree, effectually sustain the patent; and which, if sustained, *promises to give to all parties large sums of money for their united co-operation.*

It is needless to say to any persons within the range of Mr. Loring's extended reputation, that he did not know, when conducting this negotiation, of the step Dr. Jackson had taken as to the French Academy.

When the report of Dr. Jackson's communication to the French Academy reached Boston, Dr. Morton, as may well be supposed, was extremely indignant. Now, for the first time, he set himself about collecting the evidence, showing the true history of the discovery. Some attempts were then made at an agreement, for the second time, and Dr. Morton, on the faith of them, suspended his publication. During the last week of February, he was engaged with Mr. Hays in attempts at making an agreed statement of facts, to be signed by both parties, which should put the question at rest; and thus lost another opportunity to send his statement, of which, as we shall see, Dr. Jackson had availed himself.

Pending this attempt at an arrangement, it seems that the Hon. Edward Everett and Dr. J. C. Warren had addressed a private letter to Dr. Jackson, suggesting to him the propriety of stating to the American Academy, at its next meeting, the nature of this discovery and its scientific bearings. This they did as a private matter, from one member of the academy to another, and not at all intending to recognize any exclusive claims in Dr. Jackson as the discoverer.

On the 1st day of March, before the meeting of the academy, there appeared in the Daily Advertiser a long letter, purporting to have been read before the American Academy of Arts and Sciences, by Dr. C. T. Jackson, and apparently carrying with it the sanction of the academy, with the names of Edward Everett, Dr. John C. Warren, and others, well known in Europe. Dr. Jackson sent a number of papers to Europe by the steamer of that day, and there can be no doubt that his object in printing it on that day was to send the letter, at once, and in the most convenient form, to Europe. In Europe, this letter was universally considered as giving the sanction of the academy to Dr. Jackson's claims, and created a tide of opinion in his favor which Dr. Morton could not stem, and which was only checked by the subsequent news, even now, perhaps, not generally diffused, that the letter had never, in fact, been read before the academy, nor officially called for.

The academy did not print Dr. Jackson's letter among its transactions; all responsibility for it was distinctly disavowed, and his printing it was severely commented upon. Mr. Everett, in his letter to Dr. Morton, says, "I need scarce say that my recommendation to Dr. Jackson to address a paper on the subject to the American Academy, can in no degree be regarded as giving the sanction of that body to his statements. It is a standing regulation of the academy not to assume any responsibility for either opinions or facts set forth in the memoirs submitted to it. And, if this were otherwise, it is

hardly necessary to remark that the academy's sanction could not be conveyed in advance by an individual member."

The trustees, on this head, speak of Dr. Jackson as "transmitting to Europe, as a paper which had been read before the American Academy, a statement of his claims to this discovery; when, in fact, it had not been so read; thus communicating it to the world under an official sanction to which it was not yet entitled."

While we are on the subject of this letter we will remark, that Dr. Jackson, among other statements, says in it, that he "was desirous of testing it (ether) in a capital operation; and that Dr. Warren politely consented to have the trial made." To which the trustees remark, after detailing the circumstances, "*We still find that every part of the statement is utterly irreconcilable with the facts.*"

Dr. Morton, surprised as he was to see this letter, did not at first suspect the object of its premature publication, and did not learn that it had been sent to Europe until it was far on its way. He was the more surprised, because during the week before it appeared, as late as Saturday night, (the steamer sailing on Monday,) he had been engaged in his attempts with Mr. Hays to draw up an agreed statement, which should settle the controversy; and this negotiation was kept open even up to the time that the article was set up for printing, and broken off only on account of its appearing. No other steamer sailed during that month, and Dr. Morton could not send a counter statement to Europe until the 1st of April.

Immediately, upon the appearance of this letter, Dr. Gould made an effort to arrange matters between the parties. He told Dr. Jackson's attorney, Mr. Hays, that he would devote one week to the business, and if something was not done by Saturday night, he should attempt nothing further. He also told him that if this attempt failed, Dr. Morton would send his documents to Europe by the steamer of April 1st. Dr. Gould assures the editor that he did all on his part to forward the arrangement, but that no corresponding effort was made on the other side.

The week elapsed and nothing was done. Dr. Gould then abandoned all attempts to settle the matter. Dr. Morton then made a final effort, himself, and opened the following correspondence:—

CHARLES T. JACKSON, M. D.:

Dear Sir,—Being desirous that the misunderstanding between us, as to the discovery of the fact that sulphuric ether will produce insensibility to pain, may be speedily and satisfactorily adjusted, I now propose to you to refer the whole matter to some disinterested umpire, before whom all the testimony on both sides as to the matter in controversy shall be submitted, and whose decision shall be perpetually binding on both parties.

An answer to this proposition, made with the anxious desire for a full settlement of our difficulties, is expected to-day, or early Monday morning.

Respectfully,
Your obedient servant,
W. T. G. MORTON.

SATURDAY, March 27, 1847.

BOSTON, March 28, 1847.

W. T. G. MORTON, Esq.:

Last evening, I received your note of yesterday, and now reply that it will be as agreeable to me as it can be to you to avoid any further dispute as to the claims of you and myself in the discovery of the application of sulphuric ether by inhalation to surgical purposes.

All I require is impartial justice, and therefore I cheerfully accept your proposition to refer the question to a suitable umpire.

Respectfully,
C. T. JACKSON.

BOSTON, March 29, 1847.

C. T. JACKSON, M. D.:

Dear Sir,—Your note of the 28th instant, accepting my proposition to refer our difficulties to a disinterested umpire, has this moment come to hand, and I hasten to express my satisfaction at this favorable feature in the controversy.

It only remains for us to select the person or persons to whom the matter in debate shall be referred. If we can agree—and I trust we can—upon some one gentleman, I shall be perfectly satisfied; or, if not, then you may select one person or two, as you prefer, and I will do the same, leaving them to choose another—whose decision shall be forever binding. Please inform me what is your choice in the matter, and oblige,

Most respectfully,
Your obedient servant,
W. T. G. MORTON.

There were three days yet before the steamer sailed. The next movement lay with Dr. Jackson, but no reply came; and Dr. Morton, remembering his experiences before the sailing of the two last steamers, sent by the steamer of April 1st such evidence as he could hastily collect. But Dr. Jackson had so long held the field in Europe to himself, that Dr. Morton was looked upon there as a person who had just begun to attack a previously established claim, and a state of things existed in Europe, the reverse of that which existed at home, where all were surprised at the echo of Dr. Jackson's reputation.

Dr. Morton also met with another misfortune. All his pamphlets, consigned for distribution to the principal journals and the chief surgeons and men of science in Great Britain, got into the possession of a person who had become committed and prejudiced against Dr. Morton, and they were suppressed. The few that went to France, were in the English language, and were but little read.

Dr. Morton, too, had no scientific friends and correspondents, to forward his claims or support his interest in Europe. It was not until the nearly uniform tenor of private letters written from Boston, by the persons best acquainted with the history of this discovery, had produced an effect on leading men in Paris, that the public bodies there retraced the steps they had taken, and declared themselves ready to treat the question as undecided.

The correspondence of March 27th, et seq., is certainly evidence at once of Dr. Morton's disposition to meet Dr. Jackson fairly, and of his confidence in his own claim.

As late as the 3d of May, long after Dr. Morton had abandoned all hope of having the arbitration effected, he received the following letter :

Boston, May 3, 1847.

Mr. W. T. G. Morton :

Sir,—I have lately received a pamphlet, entitled, "Some Account of the Letheon," &c., published, as I am informed, by your consent, and would now inform you that, by this procedure, and especially by the publication of such a pamphlet, you have absolved me from all obligations to submit our relative claims upon the subject to an arbitration, as was formerly agreed upon between us.

Your obedient servant,

Charles T. Jackson.

The course pursued by Dr. Jackson, certainly lays him open to the suspicion of making the publication of Dr. Morton's pamphlet a pretext for breaking off an agreement he had long before abandoned. This opinion receives some confirmation from the statement made in Dr. Gay's note to the trustees : "Dr. Jackson has always, except in one unguarded moment, declined submitting his claims to any tribunal, either agreed upon by the parties, or self-constituted, and forced upon him."

As a good deal has been said about the impropriety of attempting to obtain a patent for right in this discovery, it is but justice to Dr. Morton to hear his own statement, in his Memoir to the French Academy :

In justice to myself, I should say that I took out my patent early, before I realized how extensively useful the discovery would be ; and beside the motive of profit and remuneration to myself, I was advised that it would be well to restrain so powerful an agent, which might be employed for the most nefarious purposes. I gave free rights to all charitable institutions, and offered to sell the right to surgeons and physicians for a very small price ; such as no one could object to paying, and reasonably to dentists. I had little doubt that the proper authorities would take it out of private hands, if the public good required it, making the discoverer, who had risked reputation and sacrificed time and money, such a compensation as justice required. But as the use has now become general, and almost necessary, I have long since abandoned the sale of rights, and the public use the ether freely, and I believe I am the only person in the world to whom this discovery has, so far, been a pecuniary loss.

In every sale of patent rights that Dr. Morton made, there was a clause to the effect that the sale should be void, in case the government of the United Sates, or of the state in which the purchaser resided, should make the right general by compensation to Dr. Morton ; showing, that from the first, he presumed the proper authorities would do justice between the discoverer and the public.

After it became evident that the patent, whether technically good or not, was practically unavailable, Dr. Jackson renounced all interest in it, and has since declared that he desires, and has always desired, no pecuniary compensation for his invaluable services to humanity, beyond the gratitude of mankind. Dr. Gay says, in his pamphlet, that Dr. Jackson has always "deemed it a sort of impropriety to procure letters patent for the practical application of scientific discoveries. He himself never would have procured one merely for his own pecuniary benefit, in a case so important to the interests of humanity ;" and again, "Dr. Jackson has received no pecuniary advantage from this patent, and he has determined that he never will receive any. He has destroyed the bond."

The transaction of *destroying the bond* is somewhat ludicrous.

On the morning of the 26th May, 1847, more than five months after the patent had been taken out, after it had for some time become unavailable, and Dr. Morton had lost a good deal of money by it, Dr. Gay called at Dr. Morton's office, with a young gentleman in his company, and somewhat dramatically cancelled the bond. This was the bond that secured to Dr. Jackson ten per cent. on the net profits of the American patent. On the same day, the anniversary of the Massachusetts Medical Society took place, and at the dinner, in the afternoon, Dr. Jackson made a speech, in which he claimed to have been entirely disinterested in his connection with the discovery, and said he had destroyed the bond. He did not say that he had destroyed it that morning, just in season for the speech ; nor does the time when this was done appear in his pamphlet ; but the reader is permitted to infer, if he chooses, that it was destroyed at a time when it had some value.

The inconsistency between these late claims for disinterestedness on the part of Dr. Jackson, and his unremitted efforts to obtain the utmost possible pecuniary advantage from the discovery, so long as there was any chance of its being profitable, is properly noticed by the trustees.

So long as the discovery was under test, and its result was uncertain, Dr. Jackson is unseen and unheard. When it became evident, from the two experiments at the hospital, that the discovery was of value, at the close of October, Dr. Jackson first appears, and then only for the purpose of claiming compensation of Dr. Morton for professional advice. He accepts five hundred dollars. His friend obtains for him ten per cent. of the net profits of the American patent. He next refuses to sign the European papers without receiving ten per cent. on the foreign patents. From this he rises to twenty per cent., and on the 28th of January he claims "twenty-five per cent., both at home and abroad, as the least that in justice" can be offered him ; and his counsel, of course with his sanction, speak of the patent as one which, "if sustained, promises to give to all parties large sums of money for their united coöperation." He opens negotiations with Dr. Morton, through Mr. Hays, for obtaining a joint patent in France, by the instrumentality of M. De Beaumont, whose letters to Dr. Jackson on this point were shown to Dr. Morton. After all hope of pecuniary benefit from the patent is at an end, he cancels the bond, and, with a strange forgetfulness of all his previous conduct, comes out in the character of one who disdains pecuniary compensation. Not only so, but he

seems determined that Dr. Morton shall receive no compensation. On the 20th Nov., 1847, the physicians and surgeons of the hospital (with one exception) prepared a memorial to congress, setting forth the importance of this discovery, and praying the government to make a payment "to those persons who shall be found, on investigation, to merit compensation," on condition that the patent be given up. Knowing that this would result in an official inquiry into the discovery, Dr. Morton promoted it to the utmost of his power. Dr. Jackson, on the other hand, remonstrated against it, on the professed ground that he would submit his claims to no tribunal, and that, as the sole discoverer, he wished no reward beyond the gratitude of mankind.

It is well known that an effort was made in London, by subscription, for a donation to the discoverer of the effects of ether. By letters to gentlemen in this city from friends in London, we are informed that a sum, estimated at £10,000, was considered as secured. But the controversy and doubt created by Dr. Jackson's communications to the French Academy caused it to be abandoned.

All must hear with regret the statement that this discovery has been to Dr. Morton a cause of pecuniary loss. The trustees say:

It is a mortifying fact, that Dr. Morton's pecuniary affairs have become embarrassed in consequence of the interruption of his regular business, resulting from his efforts and experiments in establishing this great truth, and that his health has also severely suffered from the same cause, so that he can devote only a small part of each day to his professional labors. He became poor in a cause which has made the world his debtor. The committee have the highest medical authority (that of Dr. Homans) for saying that from living so much of late in an atmosphere of ether, from the anxiety attending the various trials and experiments connected with the discovery, and from the excitement caused by the controversies which it has occasioned, the health of Dr. Morton has become such that he is unable to attend to his professional duties to any extent.

Mr. Brooks' Letter.

Boston, 27 State-street, Jan. 14, 1848.

N. I. Bowditch, Esq.: Dear Sir,—It gives me pleasure to be able to communicate, in answer to your inquiry, the information I have relative to the pecuniary embarrassments under which Dr. W. T. G. Morton labors. I was employed, last summer, to collect a debt of him, and was thereby led into an examination of his affairs, the result of which was, that I found that he had no means of paying his debts, or supporting himself and family, except the proceeds of his professional labors. *The debt which I was engaged in collecting was contracted in carrying out his plans in respect to his discovery; and that, with several other debts contracted in the same way, were pressed upon him for payment.* Suits were commenced, and a large number of his patients trusteed, which, together with the neglect which his business had suffered while he was employed about his discovery, materially diminished the extent of his practice. I am satisfied that Dr. Morton then made every effort, which could reasonably be required of him, to pay his debts, but could not. They are mostly still outstanding against him; and, with his present impaired state of health, the proceeds of his labors, although devoted to this purpose—as heretofore, I believe, faithfully done—will be so far diminished that he will not be able to meet his debts for a long time to come, if at all; while he is, and will be, continually subject to annoyances and trouble on account of them. * * * I have gone somewhat into detail, that you may see the nature of Dr. Morton's embarrassments. *They have grown out of his efforts in a cause which has resulted in a great public good, and he deserves a better fate than to be left to sink under them.*—Yours truly,

Benj. F. Brooks.

Mr. Burnett's Letter.

Boston, Jan. 8, 1848.

N. I. Bowditch, Esq.: Dear Sir,—In reply to your request to communicate such knowledge as I may have respecting the present pecuniary and personal condition of Dr. W. T. G. Morton, I would state, that my acquaintance with him commenced in 1842, and has continued, by almost daily business intercourse, until the present time. By his own industry and perseverance, while under peculiar and perplexing difficulties, he increased his business largely from year to year, until about the close of the year 1846; when, owing to his exertions to introduce and extend the use of ether as an anæsthetic agent, his regular business was neglected, and, of course, very much injured. During the whole of this time, I have had considerable knowledge of his pecuniary affairs, and am satisfied that he has been a loser of several thousand dollars, directly or indirectly, in consequence of his labors devoted to this object. To the same cause (so far as it may be proper for an unprofessional man to express an opinion) I have attributed the present suffering condition of his health. In all my business relations with Dr. Morton, I have never had occasion to doubt the integrity of his intentions.—Very respectfully, your obedient servant,

Joseph Burnett.

Mr. Dana's Letter.

30 Court-street, Jan. 14, 1848.

My Dear Sir,—In answer to your further inquiries, I reply that you are right in supposing, that my situation, as legal adviser to Dr. Morton, has enabled me to know the state of his pecuniary affairs. He is now very much embarrassed, and has not the means of making even a satisfactory compromise with his creditors, in the way of present payment; yet, if his health does not fail him, he hopes to be able to pay all his debts in the course of two or three years—provided, of course, that his creditors will give him time and opportunity. I have recently made an examination of his affairs, in order to furnish a statement to his creditors, and am satisfied that his present indebtment arises out of the unavoidable neglect of his dental business for some months after the announcement of the ether discovery, and the difficulty of reëstablishing it in his present circumstances, added to the direct pecuniary losses he sustained in attempting to introduce the use of the ether under his patent right. I have read the letters of Mr. Burnett and Mr. Brooks, and can say that nearly all the facts stated by them are also within my knowledge, and that I agree with them in opinion as to the present state of Dr. Morton's health, business, and pecuniary affairs, and the causes which have produced it.—Truly your friend and servant,

Rich'd H. Dana, Jun.

To N. I. Bowditch, Esq.

In this connection it is proper to remove a misconception as to Dr. Morton's management of his discovery, which has been created and extended by one of the affidavits attached to Dr. Gay's pamphlet. Dr. N. C. Keep, dentist, on the 28th November, 1846, formed a partnership with Dr. Morton, with especial reference to etherization. This continued but a few weeks, and was dissolved with the end of the year. One of the agreements, at the dissolution, was, that Dr. Keep should be at liberty to use the ether and apparatus freely, without objection on account of Dr. M.'s patent. In the May following, Dr. Keep furnishes an affidavit which is published in Dr. Gay's pamphlet. This affidavit has no bearing upon the question at issue, but only expresses Dr. Keep's opinion, from what he saw of Dr. Morton's practice while he was with him, between the 28th Nov. and the 31st Dec., that he was "not at all acquainted with the nature, properties, and safe and proper application of the vapor of ether;" that "it was his practice, during that time, to administer the ether without any adequate provision for the admission of atmospheric air;" that "all of *his* apparatus for the inhalation of ether was so constructed, that it was a matter, in my opinion, of absolute uncertainty, whether the patient could receive sufficient atmospheric air to prevent asphyxia." "Dr. Morton appeared to be in no sense aware of the importance of admitting atmospheric air."

The specification for the patent, signed by Dr. Morton, more than a month before Dr. Keep came to him, has this clause: "Let there be a hole made through the side of the vessel, for the admission of atmospheric air, (which hole may or may not be provided with a valve opening downward,) so as to allow air to pass into the vessel, a valve on the outside of the neck, opening upwards, and another valve in the neck and between that last mentioned and the body of the vessel or flask, which latter valve should open towards the mouth of the neck or bottle," with other particulars, on this head. By referring to Mr. Wightman's affidavit, the reader will see that the first apparatus, made early in October, had special provision for admitting atmospheric air. We are authorized by Dr. Gould to say, that the apparatus contrived by himself and Dr. Morton, the night before the first operation at the hospital, had provision for the admission of atmospheric air, which Dr. Gould thinks amply sufficient. This apparatus was used at all the successful test experiments at the hospital, and by the surgeons, in private houses, for the first three months after the discovery. The first instrument is at the hospital now, where it can be seen by all who desire to know what its provisions are. It is enough to say that the surgeons and physicians found no fault with it, and have never complained of any of Dr. Morton's experiments or his apparatus, or intimated that he did not appreciate the importance of admitting atmospheric air. We are assured by Dr. Hayward, and others, that no apparatus which has been contrived since differs in principle from that which Dr. Morton used in the first experiments. Dr. Gould assures us that Dr. Keep's apparatus, which he has seen, has not so ample a provision for admitting air as those originally used by Dr. Morton. Indeed, it is difficult to believe that, after repeated consultations with Dr. Gould, Mr. Wightman, and Mr. Chamberlain, after trying these vital experiments under the careful eye of the first surgeons and physicians of the city, for three months; after frequent consultations with them as to the dangers to be apprehended and the means of avoiding them, with the fear of asphyxia held up before them by doubters and opponents—that, after passing through these severe tests, Dr. Morton should be found in December, in the condition Dr. Keep would have us believe, "not *at all* acquainted with the nature, properties, and *safe* and *proper application* of the vapor of ether," with "*all* his apparatus so contrived" as to make it "absolutely uncertain" whether asphyxia would not take place; while Dr. Keep would not pretend to compare his own knowledge of chemistry, physiology, pathology, or mechanism, with that of the gentlemen with whom Dr. Morton had been consulting, and under whose eye the vital experiments had been performed.

It will be observed that Dr. Keep does not say that Dr. Morton had *no* provision, and *no* knowledge as to the admission of air, but no *adequate* provision, no sense of the *importance* of it. So that, after all, it is a mere matter of opinion and of degree. It is no more than a statement of opinion by one dentist, that a rival dentist, with whom he had had a difficulty, and with whom he was in direct competition in administering ether, had not, in the opinion of the former, such an apparatus, and such knowledge and prudence as he ought to have, for the safety and satisfaction of patients. Such statements are, no doubt, often made in private, between rivals in trade, and, perhaps, in the professions, but the makers of them seldom have the bad taste to publish them, under oath. The only persons who have found any fault with Dr. Morton's skill, care, and adequate apparatus, are Dr. Keep, under the circumstances above named, and Dr. Jackson, who had never administered the ether himself, nor proposed any different method. The first physicians in the city were willing to confide the lives and health of their patients and dearest friends, and, in some measure, their own reputations, to Dr. Morton and his apparatus.

CHAPTER VII.

DR. HORACE WELLS' CLAIM.

On examination of Dr. Wells' pamphlet, it will be found that the following propositions are derived from his own statement.

1. Dr. Wells makes no claim to the *ether* discovery. His experiments were solely with nitrous oxide gas.

2. He tried no surgical operation with nitrous oxide, nor knew of any having been tried, nor advised the trying of any.

3. He abandoned his experiments, in December, 1844, and tried none afterwards.

Dr. Wells being a mechanical dentist, had great motive for alleviating pain, or producing greater or less insensibility to it under dental operations. He experimented upon the idea thrown out on the high authority of Davy, and with the precise substance, nitrous oxide, recommended by Davy. This was in the autumn of 1844. On examining the affidavits attached to his pamphlets, the reader will see that his experiments were all at about the same time. Not one is later than his visit to Boston in Dec., 1844. Indeed, he admits that after his discouragement at Boston, he abandoned his experiments.

The evidence he produces of his having brought this subject before the Medical College at Boston, in 1844, and tried an unsuccessful experiment there, is superfluous. This has been admitted from the first; is distinctly stated in Dr. Morton's Memoir to the French Academy, and admitted in Dr. Jackson's pamphlet.

In Dr. Marcy's affidavit, after stating an experiment with nitrous oxide, there occurs this sentence: "I also take this occasion to assert, from my positive knowledge, that the ether vapor was administered very soon after (and prior to 1845) for the performance of a surgical operation." He does not say whether the experiment was successful or not, what the surgical operation was, by whom or on whom performed; nor does he say that the ether vapor was administered by Dr Wells, or with his knowledge. Dr. Wells, in his pamphlet, keeps up the enigma. After speaking minutely of his nitrous oxide experiments, he says, "Let it be observed, however, that at this time, (November, 1844,) while we had the subject under consideration, a surgical operation was performed at Dr. Marcy's office, under the influence of sulphuric ether, as is proved by affidavit. The doctor then advised me, by all means, to continue the use of nitrous oxide gas." This advice of Dr. Marcy to try no more experiments with ether, the fact that Dr. Wells followed the advice; and that neither of them say that the experiment was successful, nor give either the statement or the name of the patient, nor of the operator, nor the nature of the operation, are sufficient to show that the experiment was unsuccessful. Dr. Wells does not even claim it as his own experiment. We have also the authority of Dr. George Hayward, for saying that Dr. Wells, after his return from Europe, in 1847, in answer to a direct question from him, admitted that he had never tried a successful experiment with ether. Indeed, in his pamphlet, he makes no claim on the ground of any experiments with ether, nor of any, even with nitrous oxide, where there was a surgical operation. He confines both his evidence and his allegations to a few cases of extracting teeth, under the effect of nitrous oxide gas, in October and November of 1844, abandoned in Dec., 1844, and never resumed.

There cannot be the slightest doubt that these experiments were abandoned because of their unsatisfactory result. A man's contemporaneous acts are better evidence of his mind at a given time, than his subsequent declarations. Dr. Wells never brought his experiments to the test of a surgical operation, however slight; and abandoned the use of the inhalation, even in pulling teeth. It is also a striking fact, that no dentist, physician or surgeon of Hartford, took up the practice of inhalation when Dr. Wells abandoned it. This must have been either because his experiments were not known, or because their unsatisfactory result was known, either of which affords strong presumption that he considered himself as having failed. Dr. Morton, in his Memoir, says that being in Hartford in July, 1845, he called on Dr. Wells, and in the course of conversation, alluded to the subject of the inhalation of the gas, and Dr. Wells "gave me to understand that he had abandoned the experiment, thinking it could have no practical value." This, to be sure, is only the statement of a party; but it seems to be borne out by the facts.

Another statement of Dr. Wells' seems to us to furnish very strong evidence of his entire want of confidence in the result of his experiments. Speaking of his experiment at Boston, he says: "I was invited to extract a tooth from a patient in presence of the medical class, which operation was performed, but not with entire success, as the gas bag was removed too soon." "The excitement of this adventure immediately brought on an illness," &c. Now, can it be believed that Dr. Wells, if the results of his experiments had been at all satisfactory, would have submitted to the ridicule of a public failure in Boston, and abandoned the experiment forever after, because he himself removed the gas bag too soon, in one instance. Admitting his statement to be true, it proves how little it required to satisfy him that the nitrous oxide could be made of very little practical value, even in dentistry.

His pamphlet also shows us another fact, viz., how little we can rely on a few statements of insensibility to pain under slight operations, especially when these statements are selected from a great number, and we are not told of the unsuccessful attempts. The experiment, considered by all and treated by Dr. Wells, at the time, as a failure, he yet speaks of only in his pamphlet, as attended "not with *entire* success." One of his witnesses, Mr. Daniel T. Curtis, speaks of it in this wise. "The gas was administered, and the tooth extracted *under its influence*, by the said Wells, in presence of myself and many others. I am not able to say whether the patient experienced pain or not. There *was certainly no manifestation of it*, yet some present expressed themselves in the belief that it was an imposition." We have no doubt that, under some circumstances, this would have passed for a successful experiment. The experiencing pain in these cases is so much matter of degree, of opinion, of imagination, and statements as to it are so affected by choice of phraseology, that we must be on our guard. Dr. Jackson's remark is true on this point, that the extraction of a tooth is not alone a satisfactory test. And Mr. Warren says the Hon. James Dixon told him that, about two years before, applying to Dr. Wells to administer this gas to him in a case of

severe tooth-ache, Dr. Wells said, that having met with only partial success, he had abandoned the use of the gas, and advised Mr. Dixon not to take it.

But the conduct of Dr. Wells after the discovery by Dr. Morton was announced, is sufficient to set at rest his claims to priority. Dr. Morton immediately wrote to him, and invited him to come to Boston to see the experiments and to aid him in bringing the ether into use. To this Dr. Wells replied by the following letter :

HARTFORD, (CONN.,) Oct. 20, 1846.

DR. MORTON :

Dear Sir,—Your letter, dated yesterday, is just received, and I hasten to answer it, for fear you will adopt a method, in disposing of your rights, which will defeat your object. Before you make any arrangements whatever, I wish to see you. I think I will be in Boston the first of next week—probably Monday night. If the operation of administering the gas is not attended with too much trouble, and will produce the effect you state, it will, undoubtedly, be a fortune to you, provided it is rightly managed.

Yours, in haste, H. WELLS.

This letter was published in Mr. Warren's pamphlet in April, 1847, as soon as possible after Dr. Wells' action in France became known here. Dr. Wells has attempted no explanation of it. The letter is in Dr. Morton's bound volumes of letters, and at present in the possession of the editor.

About the time named in the letter, viz., during the last week in October, Dr. Wells came to Boston and saw several experiments at Dr. Morton's office, and knew that two experiments, pronounced successful, had been tried at the hospital.

In answer to a letter from the editor, R. H. Eddy, Esq., has furnished the following statement :

BOSTON, Feb. 17th, 1847.

R. H. DANA, Esq. :

Dear Sir—In reply to your note of this morning, I have to state that about the time I was engaged in preparing the papers for the procural of the patent, in the United States, on the discovery of Dr. Morton, for preventing pain in surgical operations, by the inhalation of the vapor of sulphuric ether, I was requested by Dr. Morton to call at his office to have an interview with the late Dr. Horace Wells, who was then on a visit to this city, and who Dr. Morton thought might be able to render him valuable advice and assistance in regard to the mode of disposing of privileges to use the discovery. Accordingly I had an interview with Dr. Wells. During such meeting we conversed freely on the discovery and in relation to the experiments Dr. Wells had been witness to in the office of Dr. Morton. The details of our conversation I do not recollect sufficiently to attempt to relate them, but the whole of it, and the manner of Dr. Wells at the time, led me, in no respect, to any suspicion that he (Dr. Wells) had ever before been aware of the then discovered effect of ether in annulling pain during a surgical operation. Dr. Wells doubted the ability of Dr. Morton to procure a patent, not on the ground that he (Dr. Morton) was not the first and original discoverer, but that he (Dr. Wells) believed the discovery was not a legal subject for a patent. He advised him, however, to make application for one, and to dispose of as many licenses as he could while such application might be pending ; in fact, to make as much money out of the discovery as he could while the excitement in regard to it might last. I must confess, that when, some time afterwards, I heard of the pretensions of Dr. Wells to be considered the discoverer of the aforementioned effect of ether, I was struck with great surprise, for his whole conversation with me, at the time of our interview, led me to the belief that he fully and entirely recognized the discovery to have been made by Dr. Morton, or at least, partly by him and partly by Dr. C. T. Jackson, as I then supposed. Respectfully yours,

R. H. EDDY.

During the few days Dr. Wells was in Boston, the experiments at Dr. Morton's office were not so successful as usual, owing, as Dr. M. says, to the difficulty in procuring the best of ether in sufficient quantities for the suddenly increased demand. Dr. Wells was not satisfied with the experiments, and advised Dr. Morton to abandon them, telling him that their operation would be uncertain, limited, attended with danger, and of no sufficient practical utility to justify the risk and expense. He attended no surgical operation, and returned to Hartford satisfied, undoubtedly, that Dr. M.'s experiments would end either in some catastrophe, or, like his own, be abandoned as not capable of being made of any practical value. This accounts for his entire silence for two months after the discovery was blazed abroad, and after he had witnessed its operation. We regret to see that, in his pamphlet, he passes over this correspondence and his visit to Boston, in entire silence.

Nothing whatever was heard from Dr. Wells, though he was in the country all the time, until the success of this discovery was proved beyond a doubt, great names had become responsible for it, and a petition had been presented to congress for a grant, in lieu of the patent. Then, for the first time, Dr. Wells makes an assertion of his claim, by an informal remonstrance laid before the committee of congress, by the member from the district of Hartford, the Hon. James Dixon, in which he claims priority of discovery, in 1844. But Dr. Wells furnished no evidence to the committee, and went to Europe. His visit to Europe had no connection with this discovery, and certainly it is a singular thing, that we see the professed maker of the greatest discovery of the age, allowing it to remain neglected for two years, leaving all the credit of it to another for several months, and then sailing for Europe upon a speculation in the purchase and resale of pictures.

On Dr. Wells' arrival in Europe, or soon afterwards, he finds the ether discovery received with universal applause. He states to Dr. Brewster of Paris, the distinguished American dentist, that he had suggested the idea of producing insensibility by inhalation to Dr. Morton two years before, and had experimented in that direction with success. Dr. Brewster, in his letter to Dr. Morton, of 21st March, 1847, says it was some time before he could prevail upon Dr. Wells to present his claims,

as the discoverer, to the scientific societies of Paris. This, Dr. Brewster naturally attributed to his modesty. Knowing the full history, now, we see in it only a proper appreciation of his own merits. He had not made the discovery that inhalation would produce that degree of insensibility that would render the otherwise most painful operations painless. He had only experimented in that direction, upon the hint of Davy; and abandoned his experiments, without a single test operation in surgery, as uncertain, hazardous, and of little practical value; leaving it entirely uncertain what the effect would be in a protracted and severe operation. He had started out as a pioneer in this cause, and after following an imperfect trail another had pointed out to him, he returns disheartened, and gives up the pursuit to others. He fixes his beacon where he had failed, and Dr. Morton avoids it and passes on to the great discovery. Dr. Jackson is the bystander, who says to the adventurer—I looked down the path you are going some years ago, with my glass; it seems to lead in the direction of the place you wish to find; but whether there be any such place, whether it be worth finding, and whether this path will lead to it, or end in a bog after all, I cannot tell; you must try for yourself; and remember, if you find you are mistaken, don't bring my name in with it.

CONCLUSION.

We ask the reader, after he shall have been through the preceding chapters, whether the following summary is not a fair statement of the whole matter?

The *idea* that inhalation might produce *a degree of insensibility more or less valuable in surgical cases*, was thrown out years ago on well-known and high authority. It was known that the inhalation of ether would produce a certain degree of insensibility. This discovery consists in the *demonstration of the fact*, by actual experiment, that inhalation would safely produce *such a state of insensibility that the severest surgical operations could be performed without pain.*

Dr. Wells, receiving the general idea, publicly experimented in that direction, with nitrous oxide gas, but tried no satisfactory test experiment, did not try ether, and abandoned his experiments in the belief that nothing safe, certain, and of much practical value, could be got from them.

Dr. Jackson, receiving the same general idea, from the same high authority, may have thought, also, that ether could be tried, as well as nitrous oxide gas; but made no experiment, and discovered nothing.

Dr. Morton received the same general idea, knew that the attempt with nitrous oxide had failed, acquainted himself, independently of Dr. Jackson, with the known effects of sulphuric ether, experimented with that, had sufficient motive, courage and energy to persevere, and demonstrated the fact.

Dr. Morton did not know beforehand, (as, indeed, he does not pretend,) and no one could have known beforehand, the whole extent and degree of the effect that was discovered. He believed that something important and valuable could be obtained; he was determined to discover all that could be discovered, and succeeded in demonstrating all that he hoped and even more than he imagined.

REPORT OF THE TRUSTEES OF THE MASSACHUSETTS GENERAL HOSPITAL.

The officers of the Massachusetts General Hospital for the year 1847, were the following gentlemen:—

WILLIAM APPLETON, Esq., *President*,
THEODORE LYMAN, Esq., *Vice President*,
HENRY ANDREWS, Esq., *Treasurer*,
MARCUS MORTON, JR., Esq., *Secretary*.

Charles Amory, Nathaniel I. Bowditch, Robert Hooper, Francis C. Lowell, Henry B. Rogers, J. Wiley Edmands, William T. Andrews, George M. Dexter, Thomas Lamb, John A. Lowell, J. Thomas Stevenson, and Edward Wigglesworth, Esquires, *Trustees.*

Drs. James Jackson, John Jeffries, George C. Shattuck, and Edward Reynolds, *Board of Consultation.*

Drs. Jacob Bigelow, Enoch Hale, J. B. S. Jackson, Henry I. Bowditch, John D. Fisher, and Oliver W. Holmes, *Visiting Physicians.*

Drs. John C. Warren, George Hayward, S. D. Townsend, Henry J. Bigelow, Samuel Parkman, J. Mason Warren, *Visiting Surgeons.*

The annual report for the year was drawn up by a committee consisting of N. I. Bowditch and J. W. Edmands, Esquires, and adopted by the trustees, unanimously. This unanimity was actual as well as legal, each trustee being consulted, whether present at the meeting or not. As the report of the trustees, it was then accepted by the corporation, by a unanimous vote.

We extract so much of the report as relates to the ether discovery.

It is proper to state that the committee had several personal interviews with Dr. Jackson, Dr. Gay and Dr. Morton, consulted all persons most conversant with the subject, and examined all the published documents, and numerous witnesses.

The past year has tested the unspeakable importance of the recent discovery of the properties of *Sulphuric Ether;* no less than 132 operations,* many of them of much severity, having been already performed with entire success on patients who had been rendered insensible through its benign influence. By overcoming all muscular and

* Dr. Ralph K. Jones, one of the house physicians, politely copied for the use of the committee a list of all these 132 cases (prepared by Dr Dalton, one of the house surgeons, for a different purpose.) This list specifies the name of each patient, the nature of the operation, and its result. At the end is a tabular summary; showing that, of the patients thus operated upon, there were discharged well, 75; much relieved, 15; relieved, 5; not relieved, 7; dead, 8; uncertain, 2;—the number remaining under treatment being 20.

nervous resistance, it has extended the domain of surgery ; making operations possible which could not have been performed, and which would not have been attempted, without its aid; and, by the removal of the fear of pain, it has greatly increased the actual number of operations. It has already become an established remedy throughout all the chief cities of Europe, and its benefits have reached even the distant natives of Singapore and of Canton.

With just pride, therefore, the trustees would now record the fact, that within the walls of this building were witnessed the first painless capital operations that were ever performed. The world at large, indeed, is in no small degree indebted to the medical and surgical officers of this institution. But for their immediate appreciation of the importance of this discovery, and their considerate, but, at the same time, zealous and prompt coöperation with Dr. Morton, in availing themselves of its use, its application might have been restricted to the comparatively unimportant operations of the dentist. Who can say what might have been the result, had his overtures been received with excessive caution? An answer may perhaps be found in the fact, that it is only within a few weeks, *if at all*, that the use of sulphuric ether has been introduced into our sister institution in Pennsylvania. This appears by "the Annual Report on Surgery read before the College of Physicians, Nov. 2, 1847, by Isaac Parish, M. D.," where it is said :—"*At the Pennsylvania Hospital in this city, it has not been tried at all;* being considered by the judicious surgeons of that institution as a remedy of doubtful safety, or, at least, as not sufficiently established to warrant them in its employment." And yet, in the same report, we find the following sentence :—"But, when we extend our vision to foreign countries, and call to mind that during the past nine months it has been adopted in most of the large hospitals of Great Britain—in the vast hospitals of Paris, and, for the last six months, in the numerous institutions of like character in Germany, including the immense hospitals at Vienna and Berlin, we can form some idea of the extent to which it has been carried, and of the firm hold which this great American discovery has taken of the mind of the scientific world."

The first operators who applied it were Drs. John C. Warren, and George Hayward, surgeons of this hospital. The enthusiasm of one of their colleagues,* who had been especially earnest in urging the performance of these operations, led him to become the first champion of ether in this country, by a publication of much merit; and also to transmit the earliest account of the discovery to England, where it was at once hailed with rapturous exultation. And another,† a favorite alike of science and the muses, has thus vividly described its beneficent effects :—" The knife is searching for disease—the pulleys are dragging back dislocated limbs—nature herself is working out the primal curse, which doomed the tenderest of her creatures to the sharpest of her trials; but the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever." Even the grave and dispassionate Dr. Warren himself (in a yet unpublished work, which he kindly communicated to the committee, and which embodies the matured results of his own experience upon this subject) indulges in equally graphic language :—" Who could have imagined, that drawing the knife over the delicate skin of the face might produce a sensation of unmixed delight!—that the turning and twisting of instruments in the most sensitive bladder might be accompanied by a beautiful dream!" *

Professor Simpson, of Edinburgh, has discovered that a new agent (chloroform †) possesses the same powers as sulphuric ether, and, as he thinks, many and great advantages over it. The universal law of intellect is progress. But, though others may erect the superstructure, the corner-stone of the building will preserve an imperishable record of its founder. The name of Fulton will never be forgotten. Yet how vast is the difference between the first humble steamboat that slowly toiled up the Hudson, and those majestic structures which now defy the storms of the Atlantic!

As philanthropists, we may well rejoice that we have had any agency, however slight, in conferring on poor, suffering humanity, so precious a gift. Unrestrained and free as God's own sunshine, it has gone forth to cheer and gladden the earth. It will awaken the gratitude of the present and of all coming generations. The student who, from distant lands, or in distant ages, may visit this spot, will view it with increased interest, as he remembers that here was first demonstrated one of the most glorious truths of science.

Pursuant to an informal suggestion of the board, who regard this discovery as the most important event which has occurred in the history of this institution, the committee proceed to make a more extended investigation, in respect to its origin, than would otherwise have been thought necessary.

A recent publication, by Dr. George Hayward, entitled " Some account of the first use of Sulphuric Ether by Inhalation in Surgical Practice," gives a clear and simple history of this discovery, and of all its attending circumstances, *as connected with the hospital*. It is interesting to trace the earlier successive steps by which the grand result was at last obtained. These are, to a considerable extent, recapitulated in the British and Foreign Review of April last. It is there stated, that, as early as 1779, " we find many experiments on men and animals on the inspiration of different kinds of airs."—" Dr. Beddoes, in his work on Factitious Airs, published at Bristol in 1795–6," " gives several communications from Dr. Pearson on the inhalation of ether," also " a letter from one of Dr. Thornton's patients, in which the patient himself gives an account of the inhalation of ether, by Dr. Thornton's advice, and its effects in a case of pectoral catarrh. He says, 'It gave almost immediate relief both to the oppression and pain in the chest.' On a second trial, he says he inhaled two tea-spoonfuls of ether, which, he adds, 'gave immediate relief as before, *and I very soon after fell asleep*, and had a good

* Dr. Henry J. Bigelow, who, on November 9, 1846, read a paper before the Boston Society for Medical Improvement, suggesting most of the important uses (obstetric excepted) to which ether has since been successfully applied.

† Dr. Oliver W. Holmes. See his "Introductory Lecture, delivered before the Medical Class of Harvard University, Nov. 3, 1847."

* "Etherization, with Surgical Remarks, by John C. Warren, M.D. Boston, 1848." This work, now published, is courteously dedicated to the president and other officers of this corporation by name.

† In a communication by Dr. Henry J. Bigelow to the Boston Medical and Surgical Journal, dated Dec. 4, 1846, occurs the following sentence, which is interesting as containing a distinct anticipation of the discovery of some new agent :—" And even when future science shall have abridged and improved the present method, *or substituted another for it*, it will not detract in the slightest degree from the merit of the original discoverers of a great and novel principle."

night's rest.' "—"Another curious case is given by Dr. Thornton, in which inhalation was prescribed for the relief of a very *painful inflammatory affection of the mamma*, and with very beneficial effect." The Reviewer says, " At this time, and subsequently, Dr. Thornton was in the common habit of administering the vapor of ether to his patients." —" In all these trials, no one had distinctly in view the removal or abolition of pain, though this was attained, indirectly, in Dr. Thornton's case. But Sir Humphrey Davy, who, it is well known, first began his chemical career by assisting Dr. Beddoes," " seems not only to have contemplated such a result by means of medicamentous inhalation, but to have actually put it to the test of experiment on himself. The medium of his experiment, however, was not ether, but the nitrous oxide. Sir Humphrey tells us, that on two occasions the inhalation of the nitrous oxide removed headache. He also tried its effect *in removing intense physical pain*, while he was cutting a wisdom-tooth." " He says: '*As nitrous oxide, in its extensive operation, appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place.*' "—" In the article 'Ether,' in the Dict. des Sc. Med., vol. xiii., published in 1815, we find the author, Nysten, speaking of the inhalation of *ether* as familiarly known, and as employed for the relief of some pulmonary diseases, and also for *mitigating the pain of colic.*"—To an eminent medical friend, the committee are indebted for the fact, that, in Pereira's Materia Medica, published in London in 1839, it is expressly stated that " *the vapor of ether is inhaled* in spasmodic asthma, chronic catarrh, and dyspnœa, whooping cough, and *to relieve the effects caused by the accidental inhalation of chlorine gas.*" Dr. Charles T. Jackson, of this city, (as we learn from a pamphlet published in 1847, under his own sanction and authority, entitled, " Discovery by Charles T. Jackson, M. D., of the applicability of Sulphuric Ether in Surgical Operations; by Martin Gay, M. D.,") has distinctly admitted, that he " was early impressed with the remarks of Davy* concerning the remedial agency of gaseous matters."† As a learned chemist, he was also doubtless familiar with the publication last referred to. Accordingly, two or three years after its appearance, or in the winter of 1841–2, " he inhaled sulphuric ether, to obtain relief from the very unpleasant sensations caused by an accidental inhalation of chlorine gas." In other words, having accidentally inhaled chlorine gas, he resorted to the prescribed remedy. " He at first breathed the ether without producing unconsciousness, but derived from it some relief. Afterwards, still suffering from the chlorine, he continued the experiment to such an extent as to produce complete general insensibility." Subsequently, under precisely the same circumstances, he also prescribed it to one of his students. He had, as he states, on one previous occasion, also about A.D. 1841, inhaled it with safety to the extent of producing " a peculiar sleep or unconsciousness."—" *Before his observations, a state of complete insensibility, from this cause, was considered by the best authorities as one of greater or less danger; and it had been known to produce fatal results. Young persons had breathed this vapor to the extent of producing unconsciousness, and in some cases without injury.*"

Dr. Jackson, then, had not discovered any new power or property of ether. *It was known that it could produce insensibility;* and that *that insensibility*, though sometimes fatal, *was sometimes unattended with injury.* It was also known as a specific against the noxious effects of chlorine gas. He had merely tested these known propositions, and found them true in his own person. By so doing, he had formed, as he states, a strong opinion, that pure, rectified sulphuric ether could be inhaled with safety. But its efficacy for the prevention of pain he had, thus far, only verified by actual experiment in the case specified in the text books, viz., *where chlorine gas had been previously inhaled.* This experiment is stated in Dr. Gay's pamphlet with great particularity, *as if it had been one before unknown.* The motives which led to it, and the philosophical inferences deduced by Dr. Jackson, are set forth with much minuteness. It seems indeed to be relied on as the very foundation of Dr. Jackson's claim, as the discoverer of the safety and efficacy of sulphuric ether. *It still obviously remained to be proved*, that it could be safely and effectually inhaled for the prevention of pain under other circumstances.* To establish this point, Dr. Jackson never attempted an experiment on man or animal. It is true that " he communicated to several persons† (and, among others, to Mr. Bemis, an eminent dentist, in 1842) his observations and conclusions respecting the prevention of pain in surgical operations;" and, in February, 1846, he informed a student in his laboratory, (Mr. Joseph Peabody,) who wished to have two teeth extracted, " that insensibility would be produced by the inhalation of sulphuric ether-vapor. He advised him to breathe it, and to submit to the operation, while in the sleep induced thereby." But what effect did his advice have on Mr. Peabody? " He at last gave up the experiment, because his father, a scientific man, feared irritation of the lungs might ensue—*because the best authorities on the subject were arrayed against the opinion of Dr. Jackson*, and because he was unwilling to incur any risk for so slight an operation." And such was really the general state of public opinion, among men of science, down to that time.‡ *The discovery was yet to be made by one who was willing to try the experiment, notwithstanding the best authorities on the subject were against it.*

Further, it does not appear that, from 1841–2 to 1846, Dr. Jackson suggested its use, except for the slighter and instantaneous operations of the dentist. Familiar, as he confesses himself to have been, with the views of Sir H. Davy, who had so long before suggested the use of the nitrous oxide in operations attended *with little effusion of blood*, it was very natural that Dr. Jackson's thoughts should have been exclusively turned to the use of sulphuric ether in the class of minor operations, which had been thus specified by so distinguished a philosopher. It would seem, indeed, clear that he had not the remotest conception of its universal applicability and importance. Such, indeed, is the only satisfac-

*Dr. Jackson, in a letter published with Dr. Gay's pamphlet, says, "My interest in the respiration of gases was first excited by Sir H. Davy's experiments; and, since I became acquainted with them, the subject has always seemed to me to deserve further investigation."

†Daily Advertiser of March 1, 1847.

* Dr. Gay says himself, " It still remained to be ascertained, whether this unconsciousness was so perfect, that, during its continuance, no pain would be produced by wounding instruments."—Pamphlet, p. 10.

† [But see ante, p. 539, as to the nature of that communication.—Ed.]

‡ See Mr. Metcalf's letter to the committee, p. 533.

tory explanation of the fact, that, during an interval of nearly five years, he never once tested this discovery, or caused it to be tested, by a single experiment. Upon this point, indeed, the advocate of Dr. Jackson says, "It was more than a quarter of a century after Jenner first heard the milk-maid express her belief in the protective influence of cow-pox, that he vaccinated his first patient;" but, he adds, "*during which period he was much engaged in the investigation of the subject.*" But ether seems to have received only a casual and incidental attention from Dr. Jackson. To make the cases at all parallel, it must be shown, that Jenner, after vaccinating his first patient, waited five years before vaccinating another, *with a like apparent unconsciousness of the importance of his discovery.* Indeed these two discoveries are of so totally opposite a character, that they suggest a striking contrast, instead of a parallel. In the one case, the truth could be ascertained only by repeated experiments and patient investigation. It had to fight its way against the inveterate prejudices of the world. In the other case, it is fully and forever demonstrated by the first successful capital operation; and it is at once hailed, as it were, with delight by all mankind.

Within this period, Dr. Horace Wells, of Hartford, used the nitrous oxide while engaged in extracting teeth. His claim, *as a discoverer* in this matter, must yield entirely to that of Sir H. Davy, who, after actual experiments, had, as it were, distinctly suggested the use of this very agent for this object so many years before. There are, doubtless, reasons, founded in the nature of this agent, which have prevented these suggestions of Davy, in regard to it, from having been long since realized. And, whatever may have been the result of Dr. Wells' experiments elsewhere, it is certain that his public performance of them in Boston in 1844 was an entire failure. It is also stated by Dr. Wells, that, as early as November, 1844, "a surgical operation was performed at Dr. Marcy's office under the influence of *sulphuric ether;*" and he adds, "The doctor then advised me by all means to continue the use of the nitrous oxide." And it seems that the result of this one experiment was such, that, pursuant to this advice, he abandoned the idea of the further use of ether. His claim, therefore, to the discovery in question, appears in this view also to be equally unfounded. We cannot but believe, that it has been without due consideration that his claim has received the official sanction of his native state of Connecticut.* Indeed, a published letter from Dr. Wells to Dr. Morton seems necessarily to exclude the idea that he himself claimed to have made any such prior discovery.† All must, however, accord to him the honor of having been an earnest and persevering seeker after truth in this very path of inquiry. And his labors and experiments may, we think, fairly be considered as having had some indirect influence, though not themselves attended with direct success.‡

Dr. W. T. G. Morton, of this city, must now be mentioned. He had been a student of Dr. Jackson's, and formerly a partner of Dr. Wells. He, therefore, occasionally availed himself of the advice of the former; and he was aware of, and (upon the public occasion in Boston before referred to) had taken part in, the experiments of the latter in the use of nitrous oxide. It does not appear that Dr. Wells had ever mentioned in Boston his one experiment with sulphuric ether. There is evidence, entirely satisfactory, that Dr. Morton's attention had been for some time engaged upon the subject;*

* A pamphlet—entitled, "Some Account of the Letheon; or, Who is the Discoverer? by Edward Warren; Boston, 1847"—contains various depositions proving the performance of experiments, &c., by Dr. Morton. Several of the deponents are personally unknown to the committee; but Thomas R. Spear, jun. is highly spoken of, as a person of veracity, by Hon. John P. Bigelow and Charles Sprague, Esq., two of our most respectable citizens. William P. Leavitt is also spoken of to the committee, as a credible witness, by Nathaniel G. Snelling, Esq., the well-known president of the late Massachusetts Fire and Marine Insurance Company. Francis Whitman, one of these deponents, has recently died: his truthfulness seems to be unquestionable. Caleb Eddy, Esq. is personally known to one of the committee as having had the most intimate relations with Dr. Jackson in past years; and the testimony of his son, R. H. Eddy, Esq., which will be hereafter alluded to, is, we think, entitled to the most implicit credit. These two last depositions relate especially to Dr. Jackson's connection with this discovery. Dr. Jackson, indeed, objects to both of these depositions, because the son was interested in the patent, and was therefore a party in the case; and because the father would naturally take the same views as the son in a matter involving his pecuniary interests. There are also depositions of two surgeon-dentists, Grenville G. Hayden and John C. Hardy, with neither of whom, however, are the committee acquainted. [Spear and Leavitt being the two witnesses whose testimony, if believed, proved direct experiments, the committee thought it unnecessary to apply to the gentlemen who vouch for the credibility of Dr. Hayden or Dr. Hardy, particularly as, with one exception, they were not personally acquainted with the gentlemen thus referred to. This omission, however, on the part of the committee, must not be construed as in the slightest degree reflecting on the entire credibility of either of these witnesses.]* Dr. Hayden formed a connection in business with Dr. Morton in the summer of 1846, and Dr. Hardy was formerly a student with Dr. Morton. The testimony of the latter witness is as follows, viz.:—"In the autumn of 1844, I was present, at the request of Dr. W. T. G. Morton, to see a preparation administered for the purpose of preventing pain in extracting a tooth. Dr. Morton at that time expressed great interest and solicitude in these experiments, and also at the same time requested me to assist him in making some further experiments, in case they succeeded."

It may not perhaps be irrelavent, in this connection, to mention, that Dr. Morton, on May 3, 1845, (as appears by a bookseller's bill of that date, exhibited to the committee,) purchased seven volumes upon surgery, physiology, anatomy, and chemistry; and likewise, "Pereira's Materia Medica,"—*a work which contains various details of experiments performed upon dogs, &c., with sulphuric ether.* But upon this circumstance the committee lay no great stress. The testimony of George O. Barnes and of Dr. Keep, published with Dr. Gay's pamphlet, seems to show that Dr. Morton did not realize the importance of admitting any atmospheric air with sulphuric ether, during his early experiments; so that he probably had not, to that time, acquired a thorough knowledge of its properties.†

Dr. Hayden's testimony clearly relates, in great part, to experiments performed with certain "ether" bought of Stevens, Brewer, and Co., in August, 1846, and contained in a demijohn. And Leavitt's and Spear's testimony apparently relates wholly to the same "ether." And, of this "ether," Whitman says that he told Dr. Morton he knew what it was—that it was *chloric ether.* From this, Dr. Jackson infers a wish, on the part of the other deponents, to suppress the fact that it was "chloric ether," and to deceive the public into a belief that it was *sulphuric ether.* From Dr. Hayden's supplementary certificate, appended to analyses of Dr. Gay and Mr. Burnett, it would seem, however, that he now distinctly

* [The resolution of the legislature of Connecticut was passed in a hurried manner, without giving a hearing to Drs. Jackson or Morton, and without any investigation of their claims.—Ed.]

† See Dr. Wells' letter, ante, p. 555.

‡ See, accordingly, the letter of Mr. Metcalf, in page 533.

* [See ante, p. 535, as to Dr. Hayden.]

† [But see ante, pp. 553, 554, and post, p. 564.]

that he had purchased and experimented upon sulphuric ether; that, as early as July, 1846, a highly intelligent chemist of this city had a conversation with him upon its medicinal qualities;* and that, at this very time, he made an arrangement in business, the express object of which was to relieve himself from the immediate duties of his profession, in order to devote himself to something which would make an entire revolution in dentistry.* But we do not think it at all material to go into the minute details of this evidence. Skilful in his particular department, he makes no pretensions to general science. Seeking for this discovery—acquainted with this very agent—he calls upon Dr. Jackson; wishing, without betraying his own motives and objects, to obtain all the information which Dr. Jackson's extensive researches and experience might enable him to furnish. Dr. Jackson, at this interview, voluntarily gives him the strongest assurances of the expediency and safety of using pure rectified sulphuric ether; informs him where he can get some of a good quality;† and advises him, as he had more than once advised others, to try the experiment.‡ Unlike others, Dr. Morton determines to do so. He does not yield to any doubt, from the opposite array of authorities. He is willing to take the risk. Accordingly, on Sept, 30, 1846—after having, as he states, first inhaled it himself—he finds a patient who consents to permit him to use it, *and extracts a tooth without pain*. It was, of course, at first still uncertain whether the insensibility so satisfactorily obtained during this brief operation would continue through a more prolonged one. Dr. Morton, on the next day, calls on Dr. Jackson, and informs him of his success; and the latter states, that he advised Dr. Morton to get the surgeons of the hospital to permit its use.§ He does not himself, however, see any of these officers. He is not himself present at any of the early operations.‖ He fears that Dr. Morton may recklessly do some great mischief. He refuses to give him a

alleges it to be *unrectified sulphuric ether*. Further, Whitman's testimony, though it does not state the performance of actual experiments, is, in several particulars, highly confirmatory of Spear's and Leavitt's. And we think, that the remark testified to by Whitman, as made by him on this one occasion to Dr. Morton, in respect to the contents of the demijohn being chloric ether, is a very different thing from a deliberate statement, in his deposition, that the substance really was chloric ether. It seems to the committee as if he had said, "You are very secret and mysterious in your movements; but I think I have found out what is in the demijohn: I am satisfied that it is chloric ether." Indeed, the whole of this alleged discrepancy is rendered entirely immaterial by Mr. Metcalf's letter, referred to in the next note, which proves affirmatively, and beyond all controversy, that Dr. Morton really was acquainted with, and had had in his possession, sulphuric ether, before this purchase from Stevens and Co. Further, this argument of Dr. Jackson is very remarkable, when we consider that, in the specification accompanying the patent, he does not, in the statement of his own claims, rely *exclusively* upon the use of *sulphuric ether*. Its terms would probably be broad enough to include chloroform. Dr. Jackson also comments on the omission of Dr. Morton to state at first to Mr. Eddy the fact, that he had ever performed any experiments before his interview with Dr. Jackson, Sept. 30, 1846. This omission, it would seem, however, that Mr. Eddy himself regards as sufficiently accounted for by the circumstances of the case. Dr. Jackson also remarks on the fact, that Leavitt, in his testimony, admits that the purchase from Stevens, Brewer, and Co. was made by him, under Dr. Morton's orders, in the name of another person, as if to be sent into the country. This system of concealment and secresy may be a subject of regret; but we do not think, that the general credibility of the witness is at all affected by this circumstance. The committee have preferred, throughout this investigation, to confine themselves entirely to facts proved by third persons; disregarding, as much as possible, all unsupported verbal statements and admissions of either party; as they had reason to believe that these had been often made when in a state of excitement, or under circumstances rendering the language liable to be misconstrued or misunderstood.

* Mr. Metcalf's letter, ante p. 533.

Mr. Metcalf is the well-known predecessor of Mr. Burnett, and, as an apothecary, has long possessed, in the highest degree, the confidence and respect of the medical profession; and there is no one in the community, whose personal character would give higher authority to any statement of facts distinctly and positively made. *It is therefore certain, that Dr. Morton, months before his interview with Dr. Jackson, purchased sulphuric ether* at the very shop where Dr. Jackson at last advised him to buy some more, (pure and rectified,) with which the successful experiment was made. And it may be remarked, that the details of the conversation, given by Mr. Metcalf, seem conclusively to show with what intent Dr. Morton was then making his purchase.

The committee may claim the entire credit of obtaining this most important testimony. Mr. Metcalf, having been absent in Europe, had never been applied to by Dr. Morton, who called upon him only at the express suggestion of the committee. Besides its direct bearing in the case, it confirms the statement of Dr. Hayden, who had previously testified to the purchase of a small quantity of sulphuric ether at Mr. Burnett's; and not only so, but it seems to prove that Dr. Hayden could not have any motive for misrepresenting the contents of the demijohn, since the point at issue was Dr. Morton's *entire ignorance* of sulphuric ether, not his *greater or less knowledge* of that agent. Dr. Gay, from the omission in the published affidavits of Dr. Morton to state the kind of ether used in his experiments, infers his total ignorance of *sulphuric ether*, down to Sept. 30, 1846. Indeed, Dr. Jackson stated to one of the committee, that, when Dr. Morton had his interview with him on Sept. 30, 1846, he (Dr. Morton) had never seen sulphuric ether—did not even know it by sight—was wholly ignorant about its nature and qualities—and got from him, for the first time, the idea of using it. To the suggestion that this ignorance was feigned, he replied that he knew it to be real; and remarked, "The committee may consider it as a *certain fact* in the case. It can be proved beyond all reasonable doubt whatever." The committee, being aware of Mr. Metcalf's statement, suggested that an unimpeachable witness had stated that, three months before that interview, Dr. Morton had bought sulphuric ether, and conversed with him respecting its medicinal qualities. Dr. Jackson replied that it could not be—that it must be an entire mistake, &c. The committee learned, two days afterwards, from Mr. Metcalf, that he had himself previously informed Dr. Jackson of the fact, that, *before he went to Europe*, he had seen Dr. Morton buying sulphuric ether, and conversed with him about its qualities. He had not, indeed, stated to Dr. Jackson the precise time when this interview took place; but the committee think, that this circumstance affords evidence that Dr. Jackson's conclusions in this case have been formed without a careful and deliberate consideration of the facts, even *when brought directly within his notice*.

* Letters of R. H. Dana, Jr., Esq., and F. Dana, Jr., M. D., ante, p. 536.

† Viz., at Mr. Burnett's shop, where Dr. Morton had himself purchased sulphuric ether three months before.

‡ The committee deem it a very important consideration, in respect to this interview, that the information in question was elicited by the visit of Dr. Morton to Dr. Jackson for a specific purpose, viz., to obtain the means of persuading a patient to submit to an operation, under the idea that it would be unattended with pain; and that it was not disclosed in an interview sought by Dr. Jackson to make trial of it for *his* satisfaction, or to accomplish *his* purposes.

§ Dr. G. G. Hayden, however, in his affidavit, states that, "on the evening of 30th of September, after the first experiment had been made with success, Dr. Morton spoke about going to the hospital, and using the ether there, and thus bringing out the new discovery;" while a witness of Dr. Jackson's testifies, that "Dr. Morton strongly objected at first to going to the hospital." He certainly showed no such reluctance *at last*.

‖ Dr. Jackson was absent from the city when the third operation was performed at the hospital, and remained absent twelve days; but, besides this expected absence,

written certificate of the safety of the application of ether. He openly and strongly expresses his regret, that he had ever communicated to Dr. Morton any information upon the subject.* Certainly, then, with respect to all these subsequent experiments, Dr. Jackson is free from the least responsibility; and this alike, whether he doubted the safety of the application of ether, or only, as it would seem, the competency of Dr. Morton to administer it safely. In either case, the risk was wholly confined to Dr. Morton, and the surgeons of this hospital.† Dr. Morton thus follows up his first success; and the great truth is at last made manifest, for which so many a prayer had been breathed in vain ever since man had lived and suffered. *It is demonstrated that ether may be applied with safety, so as to produce insensibility during all surgical operations.*

Upon the whole, then, it seems clear, that to Dr. Morton the world is indebted for this discovery; and that, but for Dr. Jackson's scientific knowledge and sound advice, Dr. Morton would not have made it at that precise time, and might have failed to do so at any time. The one, having a strong conviction of the safety of the agent, has the credit of giving the best possible advice: the other, by nature determined and fearless, makes the first actual application. Between the discoverer and his adviser, there will henceforth ever be an indissoluble, however reluctant, copartnership. In accordance with these general views are the published statements of two of our own officers. One of them, Dr. Hayward, says: "It is understood, that Dr. C. T. Jackson, well known by his great attainments in geology and chemistry, first suggested the use of ether;‡ but to Dr. Morton, I think, must be awarded the credit of being the first who demonstrated, by actual experiment on the human subject, the existence of this wonderful property." The other, Dr. Jacob Bigelow, President of the American Academy of Arts and Sciences, in an article published in the Medical and Surgical Journal of July 7, 1847, says: "In the case of Dr. Jackson, if he did make the discovery in 1842, as asserted, or even later, he stands accountable for the mass of human misery which he has permitted his fellow-creatures to undergo, from the time when he made his discovery, to the time when Dr. Morton made his. In charity, we prefer to believe, that, up to the latter period, he had no definite notion of the real power of ether in surgery, having seen no case of its application in that science. The first made partial experiments, and recommended, but did not make, decisive ones. The last took the risk and labor necessary to demonstrate or disprove its efficacy, and, above all, the safety of the process, which, until his time, had been believed to be dangerous to life, on various good authorities, from Dr. Christison to Mr. Peabody."

In view alike of the simplicity of the agent employed, the magnitude of the results attained, and the near approaches so repeatedly made to this discovery, how applicable are the lines of Milton, to which a friend has called the attention of the committee!

"The invention all admired, and each how he
To be the inventor missed, so easy it seemed
Once found, which yet unfound most would have thought
Impossible."

It is matter of regret that a noble discovery in science should have been attended with discussions and controversy, involving much bitterness, and, as it seems to us, disingenuousness. Dr. Morton distinctly admits, that his original application to Dr. Jackson was made with a studied concealment of his true object, and an assumed ignorance of the whole subject (as it would seem, even to the extent of asking if ether were a gas.*) The motive of this concealment is explained to have been a fear lest he should otherwise lose the honor of any eventual discovery which he might make. The consequences to Dr. Morton have been, however, that many, relying on the unimpeachable testimony of those present at that interview, have been induced to withhold from him all credit whatever, except that of "a nurse who administers a new and bold prescription of a physician,"† and to regard him, throughout this discovery, in the false light of a mere agent of Dr. Jackson. This culpable step has seemed to increase the merit of Dr. Jackson's advice, by rendering it unsolicited information, instead of a mere answer to a direct inquiry. *It has itself furnished the only colorable ground for depriving Dr. Morton of the honor of the discovery.* Thus fitly has the majesty of truth vindicated itself! On the other hand, Dr. Jackson transmits to Europe, *as a paper which had been read before the American Academy*, a statement of his claims to this discovery; when, *in fact, it had not been so read;* thus communicating it to the world under an official sanction to which it was not as yet entitled. So, also, in a communication in the Boston Daily Advertiser of March 1st, Dr. Jackson says he "*was desirous of testing it* (the ether) *in a capital operation;* and that *Dr. J. C. Warren politely consented to have the trial made;* and its results proved entirely satisfactory, an amputation having been performed

he had assigned another reason for declining to assist at that operation.

* More than one witness distinctly remembers, that the expression, "I don't care what he does with it, if he does not drag my name in with it," and others of similar import, were used by Dr. Jackson in relation to Dr. Morton's early experiments, in confirmation and establishment of this discovery. And one of Dr. Jackson's own witnesses, George O. Barnes, in an affidavit published in Dr. Gay's pamphlet, says expressly:—"In fact, he (Dr. Jackson) was sorry that he had communicated his discovery to Morton, and that he had employed him to make those early experiments with the ether. He spoke strongly upon those points."

† These were then, as now, Drs. John C. Warren, George Hayward, Solomon D. Townsend, Henry J. Bigelow, Samuel Parkman, and J. Mason Warren. Dr. Gay argues that Dr. Morton *did* not, and from his ignorance *could* not, run any risk in following the directions originally given by Dr. Jackson. That argument is certainly inapplicable to these subsequent experiments.

‡ [This remark was made before Dr. Hayward knew, as is now clear, that Dr. Morton was experimenting with ether before he saw Dr. Jackson.—Ed.]

* That this degree of ignorance was assumed seems certain from the letter of Mr. Metcalf, page 533, which proves his acquaintance with sulphuric ether three months before. If, however, this ignorance of Dr. Morton were real, and not assumed, though it would detract from the credit awarded to him, it would not strengthen the claims of Dr. Jackson. He had a right to regard the assumed ignorance as genuine.

† This illustration, used by Dr. Gay, seems to the committee entirely inapplicable. A nurse who refuses to administer even a new and bold prescription may be justly denounced by the attending physician; whereas Dr. Morton was not a student under Dr. Jackson's orders, and obliged to administer his remedies to one of *his* (Dr. Jackson's) patients. He was a free agent, who, after receiving the prescription, voluntarily went and sought out a patient who was willing to submit to it.

under the influence of ethereal vapor, without giving any pain to the patient." Whereas we have two distinct published statements of Dr. Warren, one in reply to a letter of Nov. 30, 1846, in which occurs the following sentence:—"Two or three days after these occurrences, (*i. e., the first two operations at the hospital,*) on meeting with Dr. Chas. T. Jackson, distinguished for his philosophical spirit of inquiry, as well as for his geological and chemical science, this gentleman informed me, that he first suggested to Dr. Morton the inspiration of ether, as a means of preventing the pain of operations on the teeth. He did not claim the invention of the apparatus, or its practical application. For these we are indebted to Dr. Morton." The other statement is as follows:—"Boston, Jan. 6, 1847. I hereby declare and certify to the best of my knowledge and recollection, that I never heard of the use of sulphuric ether by inhalation, as a means of preventing the pains of surgical operations, until it was suggested by *Dr. W. T. G. Morton*, in the latter part of October, 1846." If it be said, that neither of the first two operations was a capital one, we have the authority of Dr. Hayward, who performed the second operation,* for saying, that it was the removal of a very large tumor from the arm—that it occupied seven minutes—that, as it involved the painful process of cutting through the skin to a great extent, it was as entirely satisfactory as an amputation would have been—the patient being free from all sense of pain. One present at the operation exhibited to the committee a sketch of the arm and the tumor upon it, taken at the time, which clearly showed how formidable an operation it must have been, though not perhaps what would be professionally called a *severe* one. Dr. Warren says expressly in his yet unpublished work, "The patient exhibited no sign of physical or intellectual suffering." *And yet it was not until after this operation, that Dr. Warren or Dr. Hayward had received an intimation, that Dr. Jackson had anything to do with the discovery, either from himself or any one else.* The third operation was a capital one, and it was entirely successful. Alice Mohan, a young woman of twenty years of age, (who had long been a patient in our institution, and who is doubtless well remembered by all this board, to whose kind consideration her character and conduct, no less than her misfortunes, so well entitled her,) was to submit to amputation above the knee. But if Dr. Jackson's statement is to be understood as applying only to this case, we still find that every part of the statement is entirely irreconcilable with the facts. This operation was performed, not by Dr. Warren, but by Dr. Hayward. And not only was Dr. Hayward still entirely ignorant of Dr. Jackson's participation in this discovery; but the dialogue which actually had taken place between Dr. Warren and Dr. Jackson, in relation to it, was to this effect: Dr. Warren, on being informed by Dr. Jackson that he first suggested to Dr. Morton the use of sulphuric ether, *requested Dr. Jackson to come to the hospital, and administer it* during this operation, which was to take place the next Saturday. *Dr. Jackson declined doing so*, for two reasons;—one, that he was going out of town; the other, that he could not do so consistently with his arrangements with Dr. Morton. Dr. Warren has not given to the committee any information respecting this conversation; but that such was the substance of the dialogue is capable of judicial proof from other evidence which has been laid before the committee. So that, if Dr. Jackson at any time requested of Dr. Warren to have the ether administered during a capital operation at the hospital, it must have been after this conversation, in which he declined to administer it, and after it had been successfully applied by another without his assistance.

This withholding of all credit from Dr. Morton has but caused Dr. Jackson's own claims to be the more strictly scrutinized. Had he been willing to admit that the discovery was a joint one, the world would probably have allowed to him, as a truly scientific man, the largest share of the honors resulting from it. The exclusive claims of Dr. Jackson seem to rest wholly upon the hypothesis, that Dr. Morton was, from first to last, his mere agent;—an idea evidently repudiated by Dr. Morton, when he first went to Dr. Warren, *without even naming Dr. Jackson;* and most openly and unequivocally disavowed by Dr. Jackson himself, during the whole series of Dr. Morton's experiments. The committee think that Dr. Jackson's own early acts have, indeed, forever rendered inadmissible these exclusive claims. He at first agreed to receive from Dr. Morton the sum of $500, as a compensation for his services. Is it, for one moment, conceivable that the true discoverer would have thus bartered away his birthright for a mess of pottage? And when subsequently, at the suggestion of the commissioner of patents, a personal intimate friend of Dr. Jackson, Dr. Morton consented to permit Dr. Jackson's name to be associated with his own in the patent—he having agreed, instead of the $500, to receive one tenth part only of the profits—we ask again, Is it conceivable that the sole discoverer would have thus associated another with himself, taking even an oath that they were joint discoverers, and, at the same time, have consented to receive only a pittance of what was wholly his own? No! We consider that Dr. Jackson is estopped forever from such a claim, and that not upon technical grounds, but by the whole equity of the case. We will not, however, further pursue this ungracious part of our subject.

It is further matter of regret, that a patent should have been taken out for such a discovery. As well might Dr. Franklin have claimed one for the exclusive use of the electric fluid. A patent in this case, indeed, would seem to be a peculiarly odious monopoly—a speculation based upon human suffering—like an exclusive right to sell breadstuffs to a famishing community. It is due, however, to Dr. Morton to state that he tendered the free use of the discovery to this institution,* and requested from Dr. John C Warren a list of all similar institutions in the country, that he might extend its benefits to them. He, in like manner, tendered the free use of it to the army and navy of the United States. His design was, as he alleges, to charge to practitioners a moderate annual sum, which, he thought, would be paid cheerfully, and without inconvenience, by their respective patients.† Dr. Jackson's

* The first operation, the removal of a tumor from the neck, was performed by Dr. Warren, who says that it was a case of imperfect etherization. It was performed Oct. 16, 1846. The second operation took place Oct. 17th. and the third on Nov. 6th.

* He certainly made the offer, without any previous request from this board: though a witness of Dr. Jackson's states, that it was made at his suggestion, and with a reluctant acquiescence on the part of Dr. Morton.

† In his licenses was inserted a clause, that such payments were to cease, if the United States, or the state where the practitioner lived, should purchase the right to use the discovery.

name would not have been associated in the patent, but at the instigation of R. H. Eddy, Esq., the commissioner, who has publicly avowed that he acted under a mistaken apprehension of facts, and who now awards to Dr. Morton the sole honor of the discovery, which at the time he supposed might fairly be regarded as a joint one. Mr. Eddy's intelligence and truthfulness, and his sincere friendship for Dr. Jackson, are well known in this community. But we must state our conviction, that it was a sad mistake to have resorted to any exclusive legal rights in the present instance. This has become the deliberate opinion of the profession and of the public. One of the patentees, Dr. Jackson, after applying to be admitted to a larger share of the profits, ultimately renounced all claims to any benefit from this source; and the patent has also become unavailable to Dr. Morton.* We cannot, however, but wish, that it had been originally taken out rather from the hope of securing to themselves the honor than the profits of the discovery. And yet a national benefit of such magnitude is well entitled to a national reward. It may be true that Dr. Jackson does not need or now wish such reward; but it is a mortifying fact, that Dr. Morton's pecuniary affairs have become embarrassed, in consequence of the interruption of his regular business, resulting from his efforts and experiments in establishing this great truth, and that his health has also seriously suffered from the same cause, so that he can devote only a small part of each day to his professional labors. He has become poor in a cause which has made the world his debtor.† The committee are, in this connection, authorized to state, that a memorial was prepared by the physicians and surgeons of this institution, to be forwarded to congress at its present session, and had been already signed by eleven of them, (all except Dr. J. B. S. Jackson,) when further proceedings were stopped by a remonstrance from Dr. C. T. Jackson. This memorial, as embodying the views of these officers, is placed at the disposal of your committee; and we cannot better close this discussion than by subjoining the following copy of the document referred to:—

"*To the Senate and House of Representatives of the United States of America, in Congress assembled.*

"The undersigned, physicians and surgeons of the Massachusetts General Hospital, beg leave to represent—

"That, in the year 1846, a discovery was made in the city of Boston, by which the human body is rendered insensible to pain, during surgical operations, and during other serious and violent affections, by means of the vapor of ether inhaled into the lungs.

"That a patent for this discovery was taken out by two citizens of Boston, by whom the first satisfactory experiments on the prevention of pain by this means had been made; and the first capital operations, conducted under the influence of this agent, were performed in the Massachusetts General Hospital, by the surgeons of that institution.

"That the success of this method of preventing pain has been abundantly and completely established by a hundred and fifteen operations performed in said hospital during the last year, and by a still greater number out of it in the city of Boston.

"And, in all cases within the knowledge of the undersigned, it has greatly mitigated, or wholly prevented, the pain, when skilfully administered, and in no case has any fatal or disastrous consequence followed its use, within their observation; and although inconveniences and temporary disturbances of the nervous system have sometimes followed its application, yet these are exceptions to a general rule, and are not more common than those which result from the employment of other powerful medicinal agents, and are incomparably less distressing than the evils they are employed to obviate.

"The undersigned have reason to believe, that; since the introduction of this process, some thousands of persons have inhaled ether in Boston and its vicinity, with impunity and benefit; that its value is already recognized, and its employment introduced into most parts of Europe; that the use of the process ought to be, and, by judicious arrangements, probably will be, extended into all parts of the United States; and that no discovery in medical science, during the present century, has relieved as much suffering, and conferred so great a benefit on humanity, as the discovery of the power and application of ether.

"The undersigned are aware, that the power of ether to produce insensibility, and even death, when improperly used, was known in Europe many years ago. They are also aware, that other aeriform bodies have been experimented on, and the vapor of ether itself unsuccessfully tried, by other individuals, in surgical operations; but they are satisfied, that the safety of the process, and the effectual mode of applying it, were first made known in Boston, in 1846.

* The two gentlemen who acted as legal advisers of Dr. Jackson addressed a letter to Messrs. R. H. Eddy and W. T. G. Morton, dated Boston, January 28, 1847, containing the two following sentences:—"Under the present circumstances of the case, we think the least that, in justice to yourselves and Dr. Jackson, you can offer, is 25 per cent. of the profits arising from the invention, both at home and abroad, in settlement of his claim upon you." * * * *

"It is our wish to settle the matter amicably, if possible. We hope you will see, by our suggestions, that we wish only to have a fair distribution of the profits of a discovery made among those who cannot, if they disagree, effectually sustain the patent; and which, if sustained, *promises to give to all parties large sums of money for their united coöperation.*" Dr. Gay, however, says that Dr. Jackson "deemed it a sort of impropriety to procure letters patent for the practical application of scientific discoveries. He himself never would have procured one, merely for his own pecuniary benefit, in a case so important to the interests of humanity."

In the memorial before referred to, as presented by Dr. Morton to the French academy, the closing sentence is as follows:—"But, as the use has become general and almost necessary, I have long since abandoned the sale of rights, (under the patent,) and the public use the ether freely; and, I believe, I am the only person in the world to whom this discovery has so far been a pecuniary loss."

† The committee have the highest medical authority, (that of Dr. Homans,) for saying, that, from living so much of late in an atmosphere of ether, from the anxiety attending the various trials and experiments connected with the discovery, and from the excitement caused by the controversies which it has occasioned, the health of Dr. Morton has become such "that he is unable to attend to his professional duties to any extent." We have equally high authority, from several members of the legal profession, and others, for our statement respecting Dr. Morton's circumstances. And, in this view, we subjoin extracts from a letter of Benj. F. Brooks, Esq., counsellor-at-law, the concluding sentence of which, honorable as it is to the writer, has the sincere approval of the committee; also the confirmatory letters of Mr. Dana and of Mr. Burnett, the apothecary who supplies all the medicines used in this institution, and at whose shop the ether was purchased by which the discovery was made.—(See the letters of Mr. Dana, Mr. Brooks, and Mr. Burnett, ante, p. 553.)

"Understanding that the use of this important discovery is now restricted by letters patent granted from the office of the secretary of state, and believing that it is the policy of wise governments to diffuse among their constituents the blessings of such discoveries as tend to alleviate human suffering, and, at the same time, to reward those who have conferred such benefits upon the world—the undersigned respectfully pray, that such sums as shall be thought adequate may be paid by the government of the United States to those persons who shall be found, on investigation, to merit compensation for the benefit conferred on the public by this discovery, and on condition of the relinquishment by them of any patent right they may hold restricting its use.

"(Signed)

John C. Warren.	H. I. Bowditch.
Jacob Bigelow.	O. W. Holmes.
Geo. Hayward.	J. Mason Warren.
Enoch Hale.	Samuel Parkman.
S. D. Townsend.	Henry J. Bigelow.
John D. Fisher.	

"Boston, Nov. 20, 1847."

As a general summary of facts and views, the committee report that, in their judgment, the following propositions are satisfactorily established:—

Down to September 30, 1846, Dr. Jackson had discovered nothing that had not been known and in print in London for some years. It was known, that ether would produce insensibility; that such insensibility, though sometimes fatal, was sometimes safe; and that one of the properties of ether was its power to obviate the ill effects of an inhalation of chlorine gas. The discovery of the safety and efficacy of the inhalation of ether in surgical operations had not yet been made; the only experiments which Dr. Jackson had tried, or caused to be tried, being those already prescribed by the text-books. Dr. Jackson had for some time entertained a strong impression that it could be used with safety and effect during the operations of the dentist—a conjecture which a hundred other persons may have made without discovering the fact; and incidentally, on more than one occasion, he had advised its use for that class of operations, but had been unable to persuade any one to use it, not even persons of science and intelligence, who were most familiar with all that Dr. Jackson knew or thought upon this subject.

Prior to this time, Dr. Wells had used the nitrous oxide for this object, as recommended many years before by Sir. H. Davy. His experiments performed in Boston were, however, unsuccessful. He also claims to have performed one experiment with sulphuric ether, which, from the circumstances, must also necessarily be inferred to have been unsuccessful. And there is positive evidence that the most eminent physicians of Boston never heard of the latter experiment till after Dr. Morton's discovery.

Dr. Morton had for some time been engaged in searching for a safe agent for promoting insensibility during dental operations. He knew of, and had, upon one occasion, taken part in, the nitrous-oxide experiments of Dr. Wells.

As early as July, 1846, he purchased sulphuric ether, and proceeded to experiment upon it. On September 30, 1846, he has an interview with Dr. Jackson, and receives his decided advice to use pure rectified sulphuric ether during a dental operation, accompanied with the strongest assurances of its safety, and with the information where it could be obtained. Dr. Morton, unlike others who had received this advice, and notwithstanding he knew the prevailing belief of the dangerous and sometimes fatal character of this agent,* forthwith acted upon it. That he proceeded to inhale it himself, rests, indeed, on his own assertion. The committee have no doubt of its truth. He certainly administered it to a patient. *By so doing, he made this discovery.*† On learning this result, Dr. Jackson very naturally suggested to Dr. Morton that he had better get the ether tried by the surgeons of the hospital, which a witness of Dr. Morton's, however, alleges that he had previously determined to do. But all the subsequent steps were taken by Dr. Morton himself, without the slightest sympathy or coöperation on the part of Dr. Jackson, who, from alleged fear of his recklessness, withheld from him all countenance and encouragement. In view of these facts, the

* See Mr. Metcalf's letter, p. 533.

† Indeed, it seems to be distinctly admitted by the advocate of *Dr. Jackson*, that *he* had made no discovery in this case prior to Sept. 30, 1846. Dr. Gay says expressly, in commenting upon Dr. Wells' claims,—"Although so much time (two and a half years) has elapsed since Mr. Wells' experiments, he presents no evidence of its adoption into general surgical practice, even in that flourishing city. *It required little more than the same number of months to diffuse the knowledge and application of Dr. Jackson's discovery throughout the civilized world.*"

In fact, the specification accompanying the patent, and signed both by Dr. Jackson and Dr. Morton, and bearing date Oct. 27, 1846, is most distinct in the same admission. We subjoin the following extracts, in proof of this position, and also of the fact that Dr. Jackson did not regard *sulphuric ether* as the *sole* agent which might be used to produce insensibility to pain:—

"It is well known to chemists, that, when alcohol is submitted to distillation with certain acids, peculiar compounds, termed *ethers*, are formed; each of which is usually distinguished by the name of the acid employed in its preparation. It has also been known, that the *vapors of some, if not all,* of these chemical distillations, *particularly those of sulphuric ether,* when breathed or introduced into the lungs of an animal, have produced a peculiar effect on its nervous system, one which has been supposed to be analagous to what is usually termed intoxication."

"It has never (to our knowledge) been known *until our discovery*, that the inhalation of such vapors, *particularly those of sulphuric ether*, would produce insensibility to pain, or such a state of quiet nervous action as to render a person or animal incapable, to a great extent, if not entirely, of experiencing pain while under the action of the knife, or other instrument of operation of a surgeon, calculated to produce pain."

"*This is our discovery*," &c.

"From the experiments we have made, *we are led to prefer the vapors of sulphuric ether to those of muriatic or other kinds of ether;* but any such may be employed *which will properly produce the state of insensibility, without any injurious consequences to the patient.*"

The testimony of Dr. Keep and of Mr. Barnes, as to Dr. Morton's not being aware of the importance of the admission of atmospheric air, having been commented upon by the committee, it is proper here to add the fact, that in this very specification occurs the following sentence in the description of the apparatus to be employed:—"*Let there be a hole made through the side of the vessel, for the admission of atmospheric air,*" &c. And the original apparatus first used at the hospital by Dr. Morton is, as the committee are informed, expressly constructed so as to admit atmospheric air. Besides, had no atmospheric air been admitted, his patients would probably have been killed, discredit thrown upon the process, and the discovery perhaps postponed for ages.

It may also be remarked, that, in view of this disclaimer, by Dr. Jackson, of any discovery prior to Sept. 30, 1846, it seems difficult to explain an expression which is quoted by Mr. Warren, in his pamphlet, as extracted from Dr. Jackson's letter to M. Elie de Beaumont, originally published in "Galignani's Messenger," Jan. 25, 1847; namely,—"I have *latterly* turned this discovery to use, by inducing a dentist of this city to administer the vapor of ether to persons whose teeth he was going to extract."

committee are of opinion, that the *exclusive* claims advanced by Dr. Jackson,* though now very extensively recognized in foreign countries, are unfounded, being unwarranted alike by his acts and by his omissions; and that they involve great injustice towards Dr. Morton;—that their names will be forever jointly, though not equally, associated in this discovery; Dr. Jackson being entitled to the credit of having rendered readily available the existing knowledge upon the subject of ether, which Dr. Morton was really, though not avowedly, seeking to obtain; and Dr. Morton having first demonstrated its safety and efficacy in the prevention of pain during surgical operations;—and that Dr. Morton, by consenting to permit Dr. Jackson's name to be united with his in the patent, with the right to receive *one tenth* part of its profits, has shown himself disposed, fairly and honorably, to recognize the amount of his indebtedness to Dr. Jackson's advice.

The essential conclusions in the case may be thus concisely stated:—

1st. *Dr. Jackson does not appear at any time to have made any discovery, in regard to ether, which was not in print in Great Britain some years before.*

2d. *Dr. Morton, in* 1846, *discovered the facts before unknown, that ether would prevent the pain of surgical operations: and that it might be given in sufficient quantity to effect this purpose, without danger to life. He first established these facts by numerous operations on teeth, and afterwards induced the surgeons of the hospital to demonstrate its general applicability and importance in capital operations.*

3d. *Dr. Jackson appears to have had the belief, that a power in ether to prevent pain in dental operations would be discovered. He advised various persons to attempt the discovery. But neither they nor he took any measures to that end; and the world remained in entire ignorance of both the power and safety of ether, until Dr. Morton made his experiments.*

4th, *The whole agency of Dr. Jackson in the matter appears to consist only in his having made certain suggestions, which led or aided Dr. Morton to make the discovery—a discovery which had for some time been the object of his labors and researches.*†

The committee are well aware, that any investigation and opinion which shall have the sanction of this board—emanating, as all must admit, from those who ought to know most of the circumstances of this discovery—will be entitled to great weight. That investigation has been conducted by the committee under a solemn sense of responsibility to the public, to posterity, and to the cause of truth and justice. Personal feelings have been laid aside. When this inquiry was instituted, neither of the committee had ever seen Dr. Morton; and both of them, on the other hand, were in friendly relations with Dr. Jackson. There had always existed between them and him feelings of mutual respect and regard. No friend of Dr. Jackson would willingly remove a merited laurel from the brows of one whose scientific attainments, upright intentions, and amiable character, all are happy to acknowledge. The committee, indeed, believe that he is honestly self-deceived in this matter.

We submit our report upon this subject to the board, in the assurance that it will receive their deliberate examination, and that its conclusions will be adopted, if at all, under a like solemn sense of responsibility.*

* That such claims are really advanced by Dr. Jackson, is well known. He said indeed to one of the committee, "I allow of no partnership in this matter. If your report takes from me such a proportion of the sole credit of this discovery *as amounts even to the paring of a finger nail*, I shall entirely object to it."

† The results otherwise arrived at by the committee have received the highest confirmation from Professor Simpson, the discoverer of chloroform, who has transmitted to Dr. Morton a copy of his pamphlet, entitled, "Account of a New Anæsthetic Agent, as a substitute for Sulphuric Ether, in Surgery and Midwifery," with the following note written upon one of its blank pages:—

"My Dear Sir,—I have much pleasure in offering, for your kind acceptanec, the aecompanying pamphlet. Since it was published, we have had various other operations performed here, equally suceessful. I have a note from Mr. Liston, telling me also of its perfect success in London. Its rapidity and depth are amazing.

"*In the Monthly Journal of Medical Science for September, I have a long article on etherization, vindicating your claims over those of Jackson.*

"*Of course, the great thought is that of producing insensibility; and for that the world is, I think, indebted to you.*

"I read a paper lately to our society, showing that it was recommended by Pliny, &c., in old times.

"With very great esteem for you, allow me to subscribe myself, Yours very faithfully,

"J. Y. Simpson."

"Edinburgh, 19th Nov. 1847."

Accordingly, in a note published with the article referred to, is the following sentence:—"Within the last few days, I have seen a pamphlet, dated Boston, May 30, 1847, in which it is stated, that, for three months previously, all apparatus had been laid aside, and the sponge alone used for etherization, by Dr. Morton, of that city—the gentleman to whom, I believe, the profession and mankind are really and truly indebted for first reducing into practice the production of insensibility by ether inhalation, with the object of annihilating pain in surgical operations."

* A few remarks upon the manner in which this inquiry has been pursued, may not perhaps be inappropriate.

The committee considered, that, as Dr. Morton alone assisted in the early experiments at the hospital, they were not strictly called upon to mention Dr. Jackson; but, inasmuch as Dr. Gay's pamphlet had been for some time before the world, and also Mr. Warren's reply, it seemed that the whole subject had been submitted by the parties to the tribunal of the public, and that the public would reasonably expect from this institution such a narrative of the facts as might be prepared from these *and from other sources more especially within our reach.* Both these pamphlets were therefore very carefully examined and compared; twenty-two individuals, most conversant with the subject, consulted; and the report substantially prepared. The committee then deemed it advisable to address a note to Dr. Jackson, informing him that Dr. Gay's pamphlet had been considered by them as containing a full statement of his claims; that if, however, he had any additional facts to communicate, the committee would be happy to receive them. The result was two personal interviews, besides one of three hours' duration (by express appointment) with Dr. Gay, in behalf of Dr. Jackson. Dr. Gay offered to prove certain facts, having no connection with or relation to this discovery, which the committee declined hearing. He also said he had other evidence of a strictly confidential character, which was also declined. He then proceeded to comment upon the testimony contained in Mr. Warren's pamphlet. All his arguments and objections upon this point have been fairly stated by the committee, from memoranda taken at the time; and the deliberate views of the committee, in relation to these objections, have been also stated. The committee, at this interview, wished to know the worst that could be suggested as to the credibility of these witnesses. Few remarks were therefore made to Dr. Gay, as to the sufficieney of his objeetions; but they were noted as subjeets for future investigation. The committee may have said, "Well, putting this deposition aside for this ground, what is your objeetion to the next deposition?" But it was, on the other hand, distinctly suggested to Dr. Gay, that two of these witnesses were very favorably spoken of, and that the testimony of Whitman, whose character even Dr. Gay admitted to have been above suspicion, was obviously confirmatory of matters stated by the two witnesses referred to; and that

DR. MORTON'S MEMOIR TO THE ACADEMY OF SCIENCES AT PARIS, PRESENTED BY M. ARAGO, IN THE AUTUMN OF 1847.

[The editor has himself read this memoir to Drs. Hayward, Townsend, and H. J. Bigelow, of the hospital, to Dr. Gould, and Messrs. Caleb Eddy and R. H. Eddy, and is authorized by them to say that the facts which are within their knowledge are correctly stated. The editor was unable, owing to accidental circumstances, to read it to the other surgeons of the hospital; but it has been examined by them, and the editor is assured that they are satisfied with the statement of all the facts that came under their cognizance.

The reader who has gone through the evidence and the report of the trustees, cannot fail to observe, in his course through this memoir, how completely the statements of Dr. Morton therein are sustained by the evidence, and by the opinion of the trustees. In some important particulars he is supported by evidence obtained by the trustees long after the memoir had been presented, of the existence of which Dr. Morton did not know when he prepared the document.]

William T. Green Morton, of Boston, in the United States of America, surgeon-dentist, respectfully asks the attention of the Academy of Sciences to the subjoined memoir, intended to present a history of the course pursued by him which resulted in the demonstration of the great truth that the inhaling of the vapor of sulphuric ether, highly rectified, will produce insensibility to pain, in opeerations upon the human body.

He intends that this memoir shall state such facts only as illustrate the scientific character of the discovery, and shall not go into questions of personal controversy; but as the manner in which, and the person by whom, this discovery was made, have become matter of disputation, and as evidence on these points has been brought to the attention of the Academy in various ways, by other persons, he takes the liberty to subjoin, in an appendix, certain evidence, taken for a different purpose, which he desires to place at the disposal of the Academy, to be used by them in such manner as they shall see fit, or not to be used at all, as their usage or discretion shall determine.

MEMOIR.

In the summer of 1844, being in the practice of dentistry, and desirous to improve myself in chemical and medical knowledge, I studied in the office of Dr. Charles T. Jackson, of Boston, and in order to employ my time to the utmost advantage, I resided in his family. One day, in casual conversation upon my profession of dentistry, I spoke of the operation of destroying the nerve of a tooth, and remarked that there was always doubt whether the tooth could be restored to usefulness, inasmuch as the arsenic produced an irritation, and left a soreness often permanent. Dr. Jackson said, in a humorous manner, that I must try some of his tooth-ache drops, and proceeded to tell me that at a time when he practised medicine, he occasionally extracted teeth for particular patients, and that in one instance, a patient who could not summon courage for the operation, asked him to apply something

even Whitman's testimony alone was sufficient to prove that Dr. Morton was striving to realize the idea of this discovery, and was therefore irreconcilable with Dr. Jackson's *exclusive* claims.

The committee mentioned to Dr. Jackson, that they had obtained some new testimony in favor of Dr. Morton, (meaning the letters of Mr. Metcalf and of Dr. Dana;) but, believing that the testimony in these letters was of a nature not to be rebutted, the committee did not feel called upon to state the fact, that either of these two gentlemen had been consulted. The committee felt themselves perfectly free, like every one else, to form and to express an opinion upon a matter of universal interest and importance, and which indeed seemed to fall naturally within their peculiar province, *even though they had not the previous permission of Dr. Jackson.* Their report had been unanimously accepted by the trustees, and presented to and unanimously accepted by the corporation. While it was in process of publication, a note was received from Dr. Gay, alleging that he supposed his objections to the testimony in Mr. Warren's pamphlet were recognized by the committee as well founded, and protesting against the course pursued by the trustees of the Massachusetts General Hospital in giving "any countenance to the attempt of Mr. Morton to rob Dr. Jackson of his sacred right to his own discovery." Dr. Gay, in his note, significantly adds, that "Dr. Jackson has always, excepting in one unguarded moment, declined submitting his claims to any tribunal, either to be agreed upon by the parties, *or self-constituted and forced upon him.*" He alleges that Dr. Jackson has much new evidence, that the investigation of the committee must necessarily have been partial, &c. This note of Dr. Gay was laid before the trustees, at a meeting held Feb. 6; but they deemed no action necessary thereupon. The committee claim no judicial powers or functions. Dr. Jackson is perfectly free to continue in his present determination of never submitting his exclusive claims to any human tribunal, or he may hereafter submit them to one which he shall regard as more competent or impartial. If, by any new evidence, he can establish these claims, he is still at liberty so to do. The committee can only state, that they have endeavored to prosecute their inquiries in a fair, cautious, and thorough manner, and that they feel the utmost confidence in the soundness of the conclusions at which they have arrived; and, conscious that no proceeding or neglect on their part has justified the remarks of Dr. Gay, they here take leave of this subject *forever.*

The committee make the following remarks on Mr. Wightman's letter:—The date of Mr. Wightman's coming to Boston is fixed beyond all doubt. The circumstances connected with this occasion have been verbally stated to the committee, and are of a nature rendering, in their judgment, a mistake impossible. This letter, then, proves that, prior to Sept. 28, 1846, *or more than two days before his interview with Dr. Jackson, Dr. Morton called on Mr. Wightman, alluded to some intended discovery of great importance, and inquired about bags, suitable for holding sulphuric ether. And it would seem probable that it was owing only to a casual suggestion then made, that Dr. Jackson, rather than some other learned chemist, was subsequently consulted by Dr. Morton.*

The letter also proves that Dr. Jackson had heard *from Mr. Wightman* (as well as from Mr. Metcalf, see p. 23) facts which it seems difficult to reconcile with his (Dr. Jackson's) conviction, expressed so strongly to the committee, *that Dr. Morton was wholly ignorant of sulphuric ether,* down to the interview with him. Dr. Jackson, and his friend Mr. Peabody, seem, indeed, to have been aware of the important bearing of Mr. Wightman's testimony on this point. Therefore, in March, 1847, they endeavored strenuously, but in vain, to satisfy him that he was mistaken as to the date of his first interview with Dr. Morton, about the gas-bags. *It would seem that Dr. Jackson had not yet resorted to the hypothesis, that he had made his discovery in* 1842; *since that, of course, rendered all these transactions with Dr. Morton*

of no consequence. Accordingly, in his later interview with Mr. Wightman, Dr. Jackson said, in effect, "You may be about right in your dates; *but it is immaterial to me,* as I can substantiate my discovery as far back as 1842." *Unfortunately, Dr. Jackson,* in the specification accompanying the patent, *had, under oath, disavowed any discovery prior to that which he made jointly with Dr. Morton; and the committee have proved that what Dr. Jackson knew about ether in* 1842 *had been published by Pereira in* 1839.

to alleviate the pain. He applied ether, and with success, for a few days afterwards a friend of this patient called to obtain some of the "tooth-ache drops," as he called them; but Dr. Jackson, not wishing to be troubled with dental business, told him he had none. Dr. Jackson then added, that as this ether might be applied with advantage to sensitive teeth, he would send me some. The conversation then turned upon the effect of ether upon the system, and he told me how the students at Cambridge used to inhale sulphuric ether from their handkerchiefs, and that it intoxicated them, making them reel and stagger. He gave no further intimation of the effect of ether, or of the manner of applying it. I may add that Dr. Jackson has confirmed my account of this conversation, in his own statement to Dr. Gould.

In a few days after this conversation, Dr. Jackson sent me a bottle of chloric ether, highly rectified, as he had offered. At the same time he sent a bottle to two other dentists of high respectability in Boston. I made an experiment with this ether in destroying the sensibility of a valuable tooth of a patient, Miss ———, by direct application, telling her that the operation would be slow. I was obliged to apply it several times, but in the end the sensibility seemed to be removed, and the tooth is now, to my knowledge, in a useful condition.*

About this time the wife and aunt of Dr. Jackson were under my treatment for dental purposes, and it was necessary to extract teeth in each case, the operation being painful and the ladies showing an unusual degree of sensitiveness. The last named lady, in particular, before the extracting of each tooth, remained several hours in the operating chair, unable to summon courage to endure the operation, and begging to be mesmerized, or that I would give her something to make her insensible. Dr. Jackson was present and made efforts to encourage the lady, but did not suggest any mode of producing insensibility. *His suggestions had not gone beyond the direct application of ether, in the same manner that laudanum and other narcotics have always been applied to sensitive teeth.*

The successful application I had made of the ether in destroying the sensibility of a tooth, together with what Dr. Jackson told me of its effects when inhaled by the students at college, awakened my attention, and having free access to Dr. Jackson's books, I began to read on the subject of its effects upon the animal system. I became satisfied that there was nothing new or particularly dangerous in the inhaling of ether, that it had long been the toy of professors and students, known as a powerful anti-spasmodic, anodyne and narcotic, capable of intoxicating and stupefying, when taken in sufficient quantity. I found that even the apparatus for inhaling it was described in some treatises, but in most cases it was described as inhaled from a saturated sponge or handkerchief. Having some of the ether left which Dr. Jackson had sent me, I inhaled it from a handkerchief, but there was not enough to produce a greater effect than exhilaration followed by headache.

While investigating this subject I was taken quite ill, and it being the middle of summer, I was advised by my physician to go into the country. I took with me from Dr. Jackson's library, and obtained in other ways, several books treating on this and other subjects. I spent two months at the residence of my father-in-law, in Connecticut. While there I procured ether from the druggist's, and made experiments upon birds and other animals, endeavoring to get them under the effect of inhalation from it. These experiments produced no satisfactory result, and they being known among my friends, I was mortified and vexed, and bottled up the subjects, where they remain to this day.

In the autumn I returned to Boston, and finding that my business, owing to its interruption, required my constant attention, I was not able to pursue the investigation at that time.

In the course of the winter (1844–5) Dr. Horace Wells, of Hartford, Conn., a dentist, and formerly my partner, came to Boston, and desired me to aid him in procuring an opportunity to administer the nitrous oxide gas, which he said he believed would destroy or greatly alleviate pain under surgical operations. I readily consented, and introduced him to Dr. George Hayward, an eminent surgeon, who offered to permit the experiment, but as the earliest operation was not to be performed under two or three days, we did not wait for it, but went to Dr. Warren, whom we found engaged with his class. He told us that his students were preparing to inhale it that evening, for sport, and offered to announce the proposal to them, and ask them to meet us at the college. In the evening Dr. Wells and myself went to the hall, and I took my instruments. Dr. Wells administered the gas, and extracted a tooth, but the patient screamed from pain, and the spectators laughed and hissed. The meeting broke up, and we were looked upon as having made ourselves very ridiculous. I saw nothing more of Dr. Wells, but he left my instruments at my office very early the next morning, and went directly home. In July, being again in Connecticut, I called on Dr. Wells, and we spent some time in adjusting our former partnership accounts. He had then given up dentistry, and was engaged in conducting an exhibition of birds, which he said insured him better health. I went with him to the office of Dr. Riggs, where I spoke of the gas, and asked them to give some to me; but Dr. Wells gave me to understand that he had abandoned the experiment, thinking it could have no practical value.

In the autumn of 1845, I returned to my business, which had now become almost exclusively mechanical dentistry, or plate work, requiring me often to extract a great number of teeth at a time. Many of my patients suffered extremely, and some were obliged, as is the experience of every dentist, to postpone or abandon the supplying full sets of teeth. I had, therefore, everything to call my attention to the destroying or mitigating of pain under these operations, and great motive to induce me to follow up the subject. Finding that when closed up in a hollow tooth, and sealed with wax, ether would gradually destroy the sensibility of the part, I reasoned that perhaps when inhaled it might destroy or greatly alleviate sensibility to pain generally.

In the spring of 1846, Thomas R. Spear came to study with me, and hearing me converse upon the subject, he said he had inhaled ether at the Lexington Academy, where he was educated, and described to me its effects. This increased my interest in the subject, and I determined, as soon as the pressure of the spring business was over, to devote myself to it. In the mean time I tried an experiment upon a water spaniel, inserting his head in a jar having sulphuric ether at the bottom. This was done in the presence of two persons, at my house in West Needham, where I reside during the summer months. After breathing the vapor for

[* See Dr. Bemis' letter, ante, p. 539. The notes are by the editor, and are not in the original memoir.]

some time, the dog completely wilted down in my hands. I then removed the jar. In about three minutes he aroused, yelled loudly, and sprung some ten feet, into a pond of water.

Immediately after this experiment, I waited on Dr. Granville G. Hayden, a young dentist, told him my purpose, and made an agreement with him to come to my office and take charge of my business, that I might devote myself more exclusively to this subject. The agreement was drawn by R. H. Dana, Jr., Esq., to whose letter in the appendix I take the liberty to refer the Academy in this connection.* As soon as Dr. Hayden became acquainted with my business, I began to devote myself to my experiments.† I inhaled some chloric ether and morphine, the effect of which was drowsiness followed by lassitude and headache.

Early in August I asked Dr. Hayden to procure me a four-ounce phial of sulphuric ether from Mr. Burnett, a druggist much relied upon by chemists. He did so, and I tried to induce him to take it. As he declined, I took half of it into the country to try again upon my dog. Just as I had got it ready, the dog sprang and threw over the jar. I felt vexed, and resolved to take it myself, and did so, the next day, at my office. I inhaled from my handkerchief all the ether that was left, but was not completely lost, yet thought myself so far insensible that I believed that a tooth could have been drawn with but little pain or consciousness. I was unwilling to send to Burnett's again for the same article, he being a near neighbor, and his young men well acquainted with mine, lest the knowledge of my experiments should get abroad. I accordingly sent a student, William P. Leavitt, to druggists in a different part of the city, Brewers, Stevens and Co., a firm in excellent standing, with directions to get sulphuric ether. After some persuasion I induced Spear, who had taken it at school, to inhale it. He did so, and became so far insensible as to drop the handkerchief, and seemed very drowsy and torpid.‡ As this passed off he became excited and furious, so that he had to be held down in the chair; but this subsided, and on coming to he expressed himself delighted with his sensations. Leavitt then took it, with much the same effect.§ I was much discouraged by these attempts. The effects produced were not such as I sought for, nor were the young men affected in the same manner that I had been, and as I observed the dog to be. They were much more excited and less insensible. Yet I cannot help remarking, in this connection, that had this sulphuric ether been pure and highly rectified, I should have demonstrated its effects then, instead of at the subsequent period in September. This ether has since been analyzed, as appears by the affidavits in the appendix, and found to contain a large proportion of alcohol, sulphur acids, and other impurities.‖

This experiment was early in August; and it being hot weather, and I being somewhat out of health, I went into the country, and abandoned the experiments until the middle of September. With the autumn and the restoration of health, my ambition led me to resume my experiments; and I mentioned to Dr. Hayden that I feared there was so much difference in the qualities of ether, that in so delicate a matter there would be great difficulty in bringing about any generally useful and reliable results.

Thinking that a surer effect might be produced by inhaling the ether through some apparatus; I called repeatedly on Mr. Wightman, a philosophical instrument-maker, for the purpose of procuring or contriving an apparatus. While examining his bags for inhaling nitrous oxide gas, the thought struck me that I could put the ether into one of these, and by making an opening to be closed by a valve, for the admission of atmospheric air, could convert it into an inhaling apparatus. Upon second thought I had an impression that ether would dissolve India rubber, and put the question to Mr. Wightman. He thought it would. I then put the same question as to oil silk. He said he did not know, but advised me to consult a chemist, and named Dr. Jackson.* I took from Mr. Wightman a glass tunnel, purchased an India rubber bag on my way, and returned to my office. I then sent Leavitt to Dr. Gay, a chemist, to ask the simple question whether ether would dissolve India rubber. He returned, saying that Dr. Gay was not in. In the mean time I became satisfied that the bottle and glass I had were not large enough for my purposes, and not wishing to go to unnecessary expense, I said to Dr. Hayden that I would borrow a gas-bag from Dr. Jackson's laboratory. He then suggested to me to ascertain from Dr. Jackson something as to the different qualities and preparations of ether, with which he said chemists were always familiar. I approved of the suggestion, but feared Dr. Jackson might guess what I was experimenting upon, and forestall me. I went to Dr. Jackson's, therefore, to procure a gas-bag, also with the intention of ascertaining something more accurately as to the different preparations of ether, if I should find I could do so without setting him upon the same track of experiment with myself. I am aware that by this admission I may show myself not to have been possessed by the most disinterested spirit of philosophic enthusiasm, clear of all regard for personal rights or benefits; but it is enough for me to say that I felt I had made sacrifices and run risks for this object, that I believed myself to be close upon it, yet where another, with better opportunities for experimenting, availing himself of my hints and labors, might take the prize from my grasp.

I asked Dr. Jackson for his gas-bag. He told me it was in his house. I went for it, and returned through the laboratory. He said, in a laughing manner, "Well, Doctor, you seem to be all equipped, minus the gas." I replied, in the same manner, that perhaps there would be no need of having any gas, if the person who took it could only be made to believe there was gas in it, and alluded to the story of the man who died from being made to believe that he was bleeding to death, there being in fact nothing but water trickled upon his leg; but I had no intention whatever of trying such a trick. He smiled and said that was a good story, but added, in a graver manner, that I had better not attempt such an experiment, lest I should be set down as a greater humbug than Wells was with his nitrous oxide gas. Seeing that here was an opportunity to open the subject, I said, in as careless a manner as I could assume, why cannot I give the ether gas? He said that I could do so, and spoke again of the students taking it at Cambridge. He said the patient would

[* See letters of R. H. Dana, Esq., and F. Dana, M. D., ante, p. 536; and Dr. Hayden's affidavit, p. 535.

[† See Mr. Metcalf's letter, p. 533, and the statement of Whitman as to Dr. M.'s going to Burnett's, at top of p. 534.]

[‡ See Spear's affidavit, p. 534.]

[§ See Leavitt's affidavit, p. 534.]

[‖ See evidence on p. 536.]

[* See Mr. Wightman's letter, p. 537.]

be dull and stupefied, that I could do what I pleased with him, that he would not be able to help himself.* Finding the subject open, I made the inquiries I wished to as to the different kinds and preparations of ether. He told me something about the preparations, and thinking that if he had any it would be of the purest kind, I asked him to let me see his. He did so, but remarked that it had been standing for some time, and told me that I could get some highly rectified at Burnett's. As I was passing out, Dr. Jackson followed me to the door, and told me that he could recommend something better than the gas-bag, to administer the ether with, and gave me a flask with a glass tube inserted in it.

I procured the ether from Burnett's, and taking the tube and flask, shut myself up in my room, seated in the operating chair, and commenced inhaling. I found the ether so strong that it partially suffocated me, but produced a decided effect. I then saturated my handkerchief and inhaled it from that. I looked at my watch and soon lost consciousness. As I recovered, I felt a numbness in my limbs with a sensation like nightmare, and would have given the world for some one to come and arouse me. I thought for a moment I should die in that state, and that the world would only pity or ridicule my folly. At length I felt a slight tingling of the blood in the end of my third finger, and made an effort to touch it with my thumb, but without success. At a second effort, I touched it, but there seemed to be no sensation. I gradually raised my arm and pinched my thigh, but I could see that sensation was imperfect. I attempted to rise from my chair, but fell back. Gradually I regained power over my limbs and full consciousness. I immediately looked at my watch, and found that I had been insensible between seven and eight minutes.

Delighted with the success of this experiment, I immediately announced the result to the persons employed in my establishment, and waited impatiently for some one upon whom I could make a fuller trial. Toward evening, a man, residing in Boston, whose certificate is in the appendix, came in, suffering great pain and wishing to have a tooth extracted. He was afraid of the operation and asked if he could be mesmerized. I told him I had something better, and saturating my handkerchief, gave it to him to inhale. He became unconscious almost immediately. It was dark, and Dr. Hayden held the lamp, while I extracted a firmly rooted bicuspid tooth. There was not much alteration in the pulse, and no relaxation of the muscles. He recovered in a minute, and knew nothing of what had been done to him. He remained for some time talking about the experiment, and I took from him a certificate.† This was on the 30th of Sept., 1846. This I consider to be the first demonstration of this new fact in science. I have heard of no one who can prove an earlier demonstration. If any one can do so, I yield to him the point of priority in time.

I will make a single remark upon the subject of my interview with Dr. Jackson. It is not necessary to go into the question of the origin of all ideas. I am ready to acknowledge my indebtedness to men and to books for all my information upon this subject. I nave got here a little and there a little. I learned from Dr. Jackson, in 1844, the effect of ether directly applied to a sensitive tooth, and proved, by experiment, that it would gradually render the nerve insensible. I learned from Dr. Jackson, also, in 1844, the effect of ether when inhaled by the students at college, which was corroborated by Spear's account, and by what I read. I knew of Dr. Wells' attempt to apply nitrous oxide gas for destroying pain under surgical operations. I had great motives to destroy or alleviate pain under my operations, and endeavored to produce such a result by means of inhaling ether, inferring that if it would render a nerve insensible, directly applied, it might, when inhaled, destroy or greatly alleviate sensibility to pain generally. Had the ether that I tried on the 5th August been pure, I should have made the demonstration then. I further acknowledge that I was subsequently indebted to Dr. Jackson for valuable information as to the kinds and preparations of ether, and for the recommendation of the highly rectified from Burnett's as the most safe and efficient. But my obligation to him hath this extent, no further. All that he communicated to me I could have got from other well informed chemists, or from some books. He did not put me upon the experiments; and when he recommended the highly rectified sulphuric ether, *the effect he anticipated was only that stupefaction which was not unknown, and he did not intimate in any degree a suspicion of that insensibility to pain which was demonstrated, and astonished the scientific world.*

As soon as the man whose tooth I extracted left my office, I consulted Dr. Hayden as to the best mode of bringing out the discovery. We agreed it was best to announce it to the surgeons of the hospital;* but as some time would elapse before an operation, I thought it best to procure some assurance which would induce my patients to take it. I therefore called upon the man who had taken it, and found him perfectly well. Thence I went to Dr. Jackson, told him what I had done, and asked him to give me a certificate that it was harmless in its effects. This he positively refused to do. I then told him I should go to the principal surgeons and have the question thoroughly tried. *I then called on Dr. Warren, who promised me an early opportunity to try the experiment, and soon after I received the invitation inserted in the appendix.*

In the mean time, I made several additional experiments in my office, with various success. I administered it to a boy, but it produced no other effect than sickness, with vomiting, and the boy was taken home in a coach, and pronounced by a physician to be poisoned. His friends were excited, and threatened proceedings against me. A notice of my successful experiment having, without my knowledge, got into the papers; several persons called, wishing to have it administered. I gave it to a lady, but it produced no other effect than drowsiness, and when breathed through the apparatus named by Dr. Jackson, it produced suffocation. I was obliged to abandon this mode, and obtaining from Mr. Wightman a conical glass tube, I inserted a saturated sponge in the larger end, and she breathed through that. In this way she seemed to be in an unnatural state, but continued talking, and refused to have the tooth extracted. I made her some trifling offer, to which she assented, and I drew the tooth, without any indication of pain on her part, not a muscle moving. Her pulse was at 90, her face much flushed, and after coming to, she remained a long time excessively drowsy. From this experiment, I became satisfied of what is now well proved, that conscious-

* [See Mr. M'Intire's statement, p. 540.]
† [See Mr. Frost's certificate, p. 541.]

[* See Dr. Hayden's affidavit, p. 536.]

ness will sometimes remain, after sensibility to pain is removed.

I afterwards gave it to a Miss L., a lady of about twenty-five. The effect upon her was rather alarming. She sprang up from the chair, leaped into the air, screamed, and was held down with difficulty. When she came to, she was unconscious of what had passed, but was willing to have it administered again, which I did with perfect success, extracting two molar teeth. After this, I tried several other experiments, some with more and some with less success, giving my principal attention to the perfecting of my modes of administering it.

When the time drew near for the experiment at the hospital, I became exceedingly anxious, and gave all my time, day and night, hardly sleeping or eating, to the contriving of apparatus, and general investigation of the subject.

I called on Dr. Gould, a physician who has paid much attention to chemistry, and told him my anxieties and difficulties. He sympathized with me, gave me his attention, and we sat up nearly all night making sketches of apparatus;* he first suggesting to me an antidote in case of unfavorable effects, and the valvular system, instead of the one I then used. The operation was to be at 10 o'clock. I rose at daybreak, went to Mr. Chamberlain, an instrument-maker, and, by great urging, got the apparatus done just after ten o'clock, hurried to the hospital, and reached the room just as Dr. Warren was about to begin the operation; he having given up all hope of my coming. The detailed account of this operation will be found in Dr. Warren's communication. There was a full attendance; the interest excited was intense, with the most eager scrutiny of the patient. When the operation closed, the patient described his state, and Dr. Warren announced his belief that there had been insensibility to pain, my feelings may be better imagined than described.

I was invited to administer it the next day, in an operation for a tumor, performed by Dr. Hayward, and with perfect success.

On the 23d October, I saw Dr. Jackson for the first time since the interview last described I take my account of this interview from a memorandum made at the time, the accuracy of which is attested by two witnesses of the highest respectability who were present. He said he thought he would just look in, that he heard I was doing well with the ether, and learned from Mr. Eddy that I intended to take out a patent, and would make a good deal by it. I replied that it had been a cause of anxiety and expense to me, but that I thought I should now do well with it. He said he thought so too, and that he believed he must make me a professional charge for advice. I asked him why in this case, more than in any other case of his advice, arising out of our previous relations, as mentioned at the opening of this memoir. He said that his advice had been useful to me, that I should make a good deal out of the patent, and that I ought to make him a compensation. I told him I would do so if I made much by the patent, independent of what I gained in my business. He then said he should charge me $500. I told him I would pay him that, if ten per cent. on the nett profits of the patent amounted to so much. He said he was perfectly satisfied with this arrangement, and so the interview ended.

The next morning he told Mr. R. H. Eddy what had passed, and two or three days afterwards Mr. Eddy suggested to me that instead of paying Dr. Jackson a fee, I should interest him in the patent, and give him ten per cent. of the nett profits. Mr. Eddy made this suggestion out of friendship to Dr. Jackson, whom he wished to benefit. He added that the patent would thus have the benefit of Dr. Jackson's name and skill; that he would thus have a motive to give his attention to the preparation and the apparatus, and we should be able to keep in advance of the improvements that might be suggested by others. He also said that if a suit was brought, and Dr. Jackson should be a witness, as he doubtless would be, the aid he had given me might be made a handle of by persons impeaching the patent, to invalidate my claim as the discoverer. At this time the dentists had organized a formidable opposition to the use of ether, and all the medical magazines in the Union, except Boston, were arrayed against it. I felt the need of all the aid I could get, and was conscious of a want of thorough scientific education myself. I was induced by these motives to accede to Mr. Eddy's request, but did not then understand that Dr. Jackson claimed to be a discoverer at all. But on this head I refer to the affidavits of the Messrs. Eddy.

I continued administering the ether in my office, and early in November I applied to Dr. Hayward for leave to administer it in a case of amputation, which I learned was to take place at the hospital. Dr. H. J. Bigelow, in the mean time, had attended my experiments at my office, and taking a deep interest in the subject, prepared a memoir, which he read to the Boston Society for Medical Improvement, and subsequently to the American Academy of Arts and Sciences.

The surgeons of the hospital informed me that they thought it their duty to decline the use of the preparation until informed what it was. I immediately wrote to Dr. Warren, the senior surgeon, disclosing the whole matter. The operation took place on the 7th November. About half an hour beforehand, Dr. H. J. Bigelow called for me, and said he wished me to be on the spot, in case it should be determined to admit me. After remaining in the ante-room for some time, it was resolved by the surgeons to permit the experiment, and I administered the ether with perfect success. This was the first case of amputation. *I will also remark, that Dr. Jackson was absent from the city at this time, and knew nothing of the operation.*

On the 21st November, I administered the ether in an operation for a tumor, at the Bromfield House, in the presence of a number of medical gentlemen, among whom I noticed Dr. Jackson. *This was the first time he had seen it administered, and no one but myself had administered it in Boston or elsewhere, to my knowledge. In this instance Dr. Jackson appeared merely as a spectator. On the 2d of January,* 1847, *he did the first act indicating to the surgeons that he had any interest in the subject. On that day he called at the hospital with some oxygen gas as an antidote for asphyxia, which he heard was produced by the ether. But before this time the surgeons had satisfied themselves that asphyxia was not produced. With the single exception of an intimation to Dr. Warren, which was after its establishment at the hospital, and which appears in his communication, none of the surgeons or other persons engaged in these experiments had received any idea, from Dr. Jackson himself, or from his conduct, that he was in any way connected with this discovery, responsible for the use of the preparation, entitled to the credit of its success, or liable to the odium of its failure.**

[* See ante, p. 543.]

[* By referring to the caption of this memoir, and to the

If death or serious injury had occurred to any one, Dr. Jackson could not have been in the least degree implicated. It was not until danger was over, and success certain, until the discovery had arrested the attention of the world, until the formidable opposition of the dentists and of all the medical magazines and societies in other places had become powerless, that Dr. Jackson began to involve himself in it, and that his claim to have anticipated the effects, and communicated them to me, was brought forward.

On the 19th October, as soon as I felt confident of success, I addressed a note to my former partner, Dr. Wells, informing him of what I had done, and asking him to come to Boston and assist me in bringing the discovery into use in dentistry. He replied by the letter in the appendix, of Oct. 20, 1846.* He came to Boston, saw several experiments in my office, expressed himself alarmed, said I should kill some one yet, and break myself up in my business. He left abruptly, but without intimating a claim to the discovery, although he could recognize the ether, and was freely told that it was ether.† *I have also the authority of Dr. Warren and Dr. Hayward, for saying that no allusion was made by Dr. Wells to ether, to their knowledge, when he made his experiment in Boston, in* 1844–5.

I am aware that a communication to an institution whose objects are scientific, and not personal, gives me no right to argue the question of my own claim to a discovery, in opposition to the claims of others. I have endeavored to state no facts but such as fairly illustrate the history of this demonstration. If these have any bearing upon the claims of others, I am entitled to the benefit of the effect. But this memoir is not intended to present the whole of my comparative rights, as against the claims of Dr. Jackson or Dr. Wells. If a tribunal were opened for such a discussion, I would most cheerfully prepare for the hearing, and submit myself to the judgment, of any enlightened umpire. I have proposed such a course to Dr. Jackson, who has declined it.

In justice to myself, I should say, that I took out my patent early, before I realized how extensively useful the discovery would be, and beside the motive of profit and remuneration to myself, I was advised that it would be well to restrain so powerful an agent, which might be employed for the most nefarious purposes. I gave free rights to all charitable institutions, and offered to sell the right to surgeons and physicians for a very small price, such as no one could object to paying, and reasonably to dentists. I had little doubt that the proper authorities would take it out of private hands, if the public good required it, making the discoverer, who had risked reputation, and sacrificed time and money, such a compensation as justice required.* But as the use has now become general and almost necessary, I have long since abandoned the sale of rights, and the public use the ether freely, and I believe I am the only person in the world to whom this discovery has, so far, been a pecuniary loss.

Most respectfully, your obedient servant,

W. T. G. Morton.

Boston, (U. S. A.,) July 31, 1847.

first column of p. 543, the reader will be reminded that this statement is authorized by the surgeons. It is also fully borne out by the trustees in their report.]

[* See ante, p. 554, Dr. Wells' letter.]

[† See ante, pp. 554–5, Mr. R. H. Eddy's letter.]

[* Provision was made accordingly in all the sales of rights made by Dr. Morton. See p. 551.]

ILLNESS AND DEATH OF JOHN QUINCY ADAMS.

The correspondent of the New York Express, in a letter dated Washington, 21st Feb., 1848, says, that while a question was being taken upon giving the thanks of congress to Generals Quitman, Shields, Smith, and Pillow, Mr. Adams was observed by those sitting in close proximity, to be apparently losing his strength. His right hand was reaching over his desk, and his lips in motion, as if struggling to address the speaker.

The members of the house rose instantly from their seats, and great excitement pervaded the hall; —the house adjourned. Mr. Adams was borne from the hall of the house by several of the members, first into the rotunda, and afterwards into the speaker's room.

Mr. Adams said but yesterday, to one of his friends, that he should not live the session out. He was apparently quite well a moment before, and conversed freely with his friends. During the morning he was complying with the request of one who had asked him for a piece of poetry, and had finished it after the house met. (It was half-past one when he was attacked.)

Just a moment before the attack, he had signed his name twice for members, who had asked his autograph. The marked and general respect shown for Mr. Adams, was one of the agreeable reminiscences of this sad event. I was speculating only this morning upon his age, and those of his compatriots, in a letter to your readers, and in an hour or two has come this sudden change in the appearance and prospects of the distinguished man.

Half-past one.—The senate have just adjourned. Mr. Benton communicated to the senate notice of the sudden illness of Mr. Adams, and moved the adjournment.

Quarter to two.—Mr. Adams has several physicians with him, but exhibits no signs of returning consciousness. The report is that he is sinking.

Two o'clock.—Mr. Giddings informs me that he shows signs of life. His face is much distorted with the marks of the struggle incident to his attack in the house. He has just now attempted to speak, but cannot articulate a word. Under medical advice he has submitted to leeching.

Half-past two.—Mrs. Adams and daughter are with him, and Mr. A. is no worse. The reports, however, are quite contradictory, and many despair of his recovery.

Three o'clock.—None but the physicians and family are present, and the reports again become more and more doubtful. The physicians say that Mr. Adams may not live more than an hour, or he may live two or three days.

His right side is wholly paralyzed, and the left not under control, there being continually involuntary motions of the muscles. Everything which medical aid can do has been done for his relief. Briefly, just now, by close attention, he seemed

anxious to "thank the officers of the house." Then again he was heard to say, "composed," "this is the last of earth." There was a struggle to speak and again a relapse.

Mr. Adams lay in the speaker's room apparently unconscious till the 23d. Congress daily met to adjourn. On the 23d he died.

From the New York Courier and Enquirer, 25 Feb., 1848.

John Quincy Adams is no more—He died in the capitol, in the armor he had so long and so honorably worn—on the field of his service and his fame—in face of his country and of heaven—without fear and without reproach: and there survives not, among the tens of millions of freemen who inhabit this republic—which almost from his cradle to his grave he has so ably and faithfully served, and which he has seen grow, from a grain of mustard seed, into the wide spreading and sheltering tree which we now behold and glory in—there survives not one of wider and more diversified knowledge, of purer heart, of warmer patriotism.

He has died as it was meet for such a man to die; as, if he could have controlled the event, he would doubtless himself have desired to die—in the faithful and assiduous discharge, to the last, of a high public trust.

Mr. Adams was born in 1767, and consequently was at his decease in his *eighty-second* year. In 1778 he may be said to have begun his eventful public career—at 11 years of age—which has been followed until more than four-score years have passed over his honored head.

In February of that year he embarked in the small frigate Boston, with his father, just appointed by the continental congress commissioner to France. The British fleets on the coast were watching for this "emissary," as John Adams was considered, and hoping to intercept him, and to be able to cut short his revolutionary career, as they had that of Colonel Laurens, of S. C., by imprisonment in the Tower.

A fierce tempest, in the course of which the Boston was struck with lightning, swept them off from the American coast and beyond the reach of those lying in wait for them; and thus commenced a public life, long drawn out, and which has survived many storms, and which has been the witness of more, and more extraordinary, political revulsions and results than ever before, probably, were crowded within the sphere of one existence—and the part which Mr. Adams has played in many of these results will connect his name with them forever.

John Q. Adams embraced the opportunities of a good education presented by his father's residence in Europe. He went to St. Petersburg, when only 14 years of age, as private secretary to the then American minister there, and after remaining abroad some years, he returned home, entered Harvard University, and was graduated with honor in 1787—after which he became a law student with the distinguished Theophilus Parsons of Newburyport, long the eminent chief justice of Massachusetts.

In 1794, John Quincy Adams being then 26 years old, was appointed, by Washington, minister of the United States at the Hague; and in the ensuing year, upon an intimation that he was disposed to renounce his station and return to his country and profession, Gen. Washington thus wrote to old John Adams:

Philadelphia, 20th Aug., 1794.

Mr. John Adams—Your son must not think of retiring from the walk he is now in. His prospects, if he pursues it, are fair; and I shall be much mistaken if, in as short a time as can well be expected, he is not found at the head of the diplomatic corps, be the government administered by whomsoever the people may choose."

Gen. Washington confirmed this favorable, and, as subsequent events have abundantly proved, the just estimate of the talents and character of the young diplomatist, by appointing him, in 1796, minister of the United States to the Court of Prussia, and in that country he resided many years; and until the close of his illustrious father's presidential term. He then returned home, and was chosen a senator of the United States from Massachusetts. While holding this high station, he was elected professor of rhetoric and belles-lettres in the Harvard University, and actively and ably and faithfully discharged the duties of that professorship.

In 1809, Mr. Adams was appointed, by President Madison, minister plenipotentiary of the United States to Russia. This is the period of his life which will most divide the judgment of posterity; for here it was that, having separated from early political friends, and denouncing men and their motives, with whom he had long appeared to act in harmony, he seemed to be receiving reward from his former opponents. Ours is not the pen, nor this the occasion, to revive the bitter feuds of that day—the memory and almost the passions of which, reach even unto this; but in purporting to present a sketch of the life of this venerable man, it did not seem possible to omit allusion to what possibly gave a coloring to the public acts of that life.

Mr. Adams was still American minister at St. Petersburg when the war of 1812 occurred, and his watchful patriotism left no effort untried that could promote the success, or encourage the zeal, of his countrymen in that war; and it was mainly owing to his enterprise that the friendly mediation of Russia in the controversy was eventually brought about. When it was finally agreed that commissioners should be named on the part of the United States and of Great Britain to treat of peace, Mr. Adams was associated with Mr. Clay, Mr. Gallatin and Mr. Russell, as such commissioners. They met first at Gottenburg, we believe. The seat of negotiation was transferred to Ghent, where was concluded the treaty that terminated the war with Great Britain. At its close Mr. Adams was transferred, as minister plenipotentiary, from St. Petersburg to London, and there it was the fortune of the writer of these sad remi-

niscences, to be admitted to his intimacy and to live much in his society—a society which no one at all imbued with any love of letters, or open to the attractions of a pure and simple life, could frequent without being wiser and better for it.

Mr. Adams was recalled from his mission in London, by President Monroe, to become the secretary of state. His conduct of that department, is among the brightest portions of our archives. In 1825 the house of representatives of the United States, on the failure of an election by the people, chose Mr. Adams president of the United States, and an honester, more single-minded, more disinterested, more patriotic chief magistrate, no country ever prospered under.

We would not, in such a paper as this, utter what might seem disrespectful to the people of the United States—yet we must, as the sober conviction of our judgment, declare that, if Mr. Adams had been less a patriot and more a partisan, he might possibly have been reëlected for a second term. But on that score he was uncompromising and inflexible—and it is within our knowledge that, to a person representing to him that prominent officers of the federal government were using the influence of their stations *against* him, he replied, "I only ask, are they faithful officers? If they do their duty to their country, and fulfil the obligations of their office, I seek to inquire no further—and *if I cannot conduct my administration on these principles, I am content to go back to Quincy.*" He *did* go back to Quincy, and with a conscience void of offence—with patriotism unsullied by corruption—and the people have since had *partisans* for their presidents.

After two years, having retired from the presidency in 1831, Mr. Adams was chosen to represent the congressional district in which Quincy is situated; and he continued, by successive and almost unanimous elections, to be such representative to the hour of his death.

Of his congressional career, as of his career as president, we say, with entire confidence, that it was honest, fearless, disinterested and high-principled. His knowledge was most comprehensive—his memory tenacious—his elocution forcible and finished; and under a cold exterior, his nature was so earnest as to lend the greatest animation to his reasoning, and, at times, almost fierceness to his invective.

But that tongue is now silent in death—that trembling hand—the index of anything but a trembling heart—is at rest. A whole people mourns a great man and a great benefactor *dead*. The congress of the nation—with reverence meet, and sympathy which all hearts acknowledge and approve—have paid the highest tribute to such worth and services, by abstaining from their daily labors in the capitol, while his mortal agony was yet prolonged beneath its dome.

"This is the last of earth—and I am content," were the sublime words, which the latest utterance of this "old man eloquent" gave to his countrymen—words denoting foregone reflection, and settled faith, and immortal hopes. Words which could only be suggested by a conscience at ease with itself—for which reflection upon the past had no regrets, and for which the future had no terrors. They were the dying words of a Christian, philosopher and statesman.

From the Washington Correspondent of the Boston Courier.

Mr. Adams sinks behind the horizon of life with all eyes turned towards his setting. What a glorious reputation does he leave behind him! Among all the men in Washington, of whatever shade of opinion, not one is to be found who will refuse to accord to him entire purity of character, and perfect integrity of purpose. He is universally believed to have performed every public act of his long life, with a conscientious regard to his convictions of duty, unswerved by public clamor, and unswayed by party zeal. His private life is free from every taint of suspicion. No excesses of youth, no vices of manhood, no frailties of age, are even imputed to him. He has passed every ordeal, and comes out at the last, unsuspected of any act inconsistent with the character of an honest and conscientious man. And not only is Mr. Adams regarded as one of the purest, but as the most learned and the ablest, of modern statesmen. He is considered as great as he is pure.

These are the impressions which fill the public mind in Washington, as Mr. Adams passes away from the scenes of his labors. New England may well be proud of having produced such a man. She has not only been benefitted by his services, her character is elevated by his virtues. The free states will never know the full extent of their obligations to him for his exertions in the cause of freedom, for they will never fully realize the immense moral effect upon the south, of his efforts in behalf of the right of petition, and the rights of an oppressed race.

From the Salem Register.

John Quincy Adams.—In his 81st year, and in the midst of his official duties, John Quincy Adams closes his earthly career. From the cradle to the grave, his whole life has passed in the exercise of the highest trusts, the most honored stations, and the most exalted duties—unscathed, unsuspected, and unalloyed. No life was ever more wholly and exclusively devoted to his country than his has been; no trusts were ever more honorably fulfilled. His administration will ever be held up as the model administration for a republican government; and history will trace, to its close, the commencement of those measures which will eventually overturn our liberties, as they have already done our constitution. Our country was too far gone in corruption to sustain a perfectly pure administration, and Mr. Adams lost his office because he would not violate its duties. Thoroughly imbued with the principles of the constitution, and perfectly acquainted with the duties of his station, he lost the office of president because he would not pander to party and associate with

corruption. Had he consented to intrigue, he could have retained this office to the utmost verge of his wishes. But, under his administration, no man lost office because he was Mr. Adams' enemy, and no one obtained it because he was Mr. Adams' friend. The only standard of his administration was qualification, and the best qualified ever obtained the posts for which they were best fitted. He never belonged to any party—he never pandered to any. A patriot in every sense, he would never deviate from the straight line of duty to court any party, or to screen himself from unpopularity. Such is the man the nation mourns with tears of blood, and to his memory history and virtue will ever do justice. The venomed breath of slander will now he smothered, and the voice of detraction he forever silenced.

Mr. Adams was descended from the noblest stock—the nobles of nature. His mother was one of the first women of her age, and his father the father of our liberties and constitution—in the emphatic language of Jefferson, "the Colossus of congress, the pillar of support to the Declaration of Independence, and its ablest advocate and defender." The son was a legitimate scion of this noble stock. Cradled in the revolution, and nursed by liberty and patriotism, at nine years of age he heard the Declaration of Independence first read from the Old State House in Boston, and imbibed all its principles. At twelve, he accompanied his father to Europe, when he sailed on the mission to make peace with the mother country. After spending several years in Europe, attending some of their literary institutions, and acting in some subordinate diplomatic stations, at twenty years of age he had returned home, and taken his degree at the university in Cambridge. He studied the profession of law with Chief Justice Parsons, at Newburyport, and commenced the practice in Boston. Here he wrote several papers in the Boston Centinel, under the signature of "Publicola," vindicating the course of Washington and the proclamation of neutrality. He was soon after sent to the Hague and Berlin on diplomatic missions. These he executed with such fidelity as to elicit Washington's testimony that he was the most useful public minister of the nation. At the defeat of his father and the accession of Mr. Jefferson to the presidency, he resigned his office as minister to Berlin, though urged by Mr. Jefferson to retain his post. But a sensitive delicacy would not suffer it. He again returned to Boston and resumed his profession. He was soon, however, elected to the senate of Massachusetts, and in 1806 became Boylston professor of rhetoric and oratory in the university. In his lectures at Cambridge, he was most popular. He also, for five years, represented Massachusetts in the United States Senate. In the conscientious discharge of his duties as senator, he gave support to some of the measures of Mr. Jefferson, although he had been the successful opponent of his father, and he differed in his opinions from his colleague.

The legislature of his state having thought fit to pass resolutions implying a disapprobation of his course, with the same instinctive delicacy with which he had resigned his mission to Berlin, he relinquished his seat in the United States Senate. He was soon, however, called to represent the nation at the court of St. Petersburg, where he obtained the utmost distinction and influence, from which resulted the intervention of Russia and the commission to Ghent, of which he was the head, and which terminated in the treaty of peace with Great Britain. After the peace he was appointed embassador to the court of St. James, and from the duties of this mission he was recalled to enter the department of state, over which he presided during the whole administration of Mr. Monroe. Whilst at Russia, he was appointed a judge of the Supreme Court of the United States, but he declined accepting the post. His diplomatic despatches, as minister and secretary of state, are models for statesmen of all ages.

He was elected to succeed Mr. Monroe as president of the United States. His administration of the presidency was a perfect illustration of the principles of our constitution, and of a republic purely and faithfully governed. In the defeat he sustained when a candidate for reëlection, there is demonstration that no other than a party government can be maintained in this country, and that the tinsel glare of martial show, and the exhibition of that most common quality, courage, will outweigh the highest qualifications and a whole life devoted to civil public services. After again returning to private life, he was elected for eight or nine successive terms as representative in congress from his district, taking his seat in 1831, only two years after he left the presidential chair. But for his independence and want of subserviency, the senate of the United States would have been again honored by his presence, and our state would have enrolled his name on the list of her governors. In congress he has been the most attentive member—not only in his seat, but at the head of the arduous committees on which, from time to time, he has been placed—

> Amidst the faithless, faithful found,
> In times that tried men's souls.

On Mr. Adams' accession to the presidency, all his predecessors, except Washington, survived, and at the time of his decease, all his predecessors and his immediate successor have passed away.

As a controversial writer, no man of the age could cope with him; and all who dared to measure a lance with him were not only unhorsed, but slain. His habits were pure, simple, and unostentatious even to awkwardness. He always arose before day, and, when in health, made his own fire. He used great exercise, and was peculiarly fond of bathing and swimming. No one ever was more industrious, or sacrificed less of his time. He was one of the most prolific writers of the age. His journal, which he kept from early life, and which embodies all his conversations with distin-

guished men of his own and other countries, is, no doubt, the most valuable document in being, and a richer legacy to his children than the ample fortune he leaves. This fortune is not the result of a niggardly economy, (for Mr. Adams always spent more than his official income,) but of two successful speculations, and a great rise in value of his patrimonial estates. Mr. Adams leaves also copies of every letter he ever wrote, and amongst his voluminous productions are most able eulogies on Madison, Monroe and Lafayette. His own eulogy should be pronounced before our own legislature, at its present session, by a statesman and scholar of as industrious life, pure patriotism, and unspotted private character as his own, the president of Harvard University.

Mr. Adams was a devoted and true disciple of Jesus Christ, whose gospel was his daily study, and his life was illustrated by every Christian virtue. His letters to his son and his lecture on faith cast a blast on infidelity, and breathed into the Christian the breath of life.

Mr. Adams leaves a widow, to whom he was married in London, in 1797. She was the daughter of Col. Joshua Johnson, then consul at London, and the niece of his brother, Gov. Johnson of Maryland, a judge of the Supreme Court of the United States, and a signer of the Declaration of Independence. Mr. Adams leaves also his youngest son, Charles F., who married a daughter of Hon. Peter C. Brooks of Boston, and who has several children; and the widow of his eldest son, John, (who is also the niece of Mrs. Adams,) with one or two children. He owned and occupied the mansion house of his father in Quincy.

In the halls of congress, where his career closed, he was looked upon with veneration. There he devoted himself to the promotion of liberty and the defence of the oppressed and enslaved, to wrest the hand of violence and still the iron voice of war. In the midst of his duties the shaft of death was sped, and his earthly career terminated. It was the death, of all others, he would have chosen. Such a life was worthy of such a death, such a triumph over the grave, and such an entrance to eternity. On the eve of the day consecrated by the birth of the Father of his Country, he receives the summons to meet him in the regions of endless felicity.

No passion fierce, no low desire,
  Has quenched the radiance of the flame;
Back to its God the living fire
  Reverts, unclouded as it came.

CORRESPONDENCE.

Many of our readers will be disappointed at seeing so large a part of this number occupied by a single subject. We are free to acknowledge that it is not altogether satisfactory to us; but we ask the general reader to be patient while we urge a few arguments in favor of our course in the matter.

In the first place, the subject is, above all things pertaining to this life only, (if, indeed, *all* matters do not connect us with eternity,) important to every son and daughter of Adam. Who of us is exempt from sickness and pain? Here is a discovery (perhaps yet only in its infancy) which promises support to the trembling flesh in an hour of deep anguish, from the throes of nature, or the operations of surgery. If it were only for avoiding the agony of losing teeth, which begins before we have fully passed through the pain of their growth, and continues with us (painful warning!) till we lie down in the dust—this discovery ought to be looked to with the greatest interest by every one of our readers. It is considered, in Europe, the greatest discovery of the age we live in.

In the second place, while royal societies and scientific academies, all over Europe, are seeking to determine to which of the American claimants belongs the honor of this discovery—so that they may rank him with Jenner, as one of the great benefactors of his species—the directors of the hospital in which it was brought to the test, have made an official report, in which they endeavor, so far as is in their power, to settle that question. Here, where the discovery was proclaimed, where the claimants reside, where all the facts are best known—here, if anywhere, and now, if ever, can the rival claims be justly weighed, and that evidence be put forth upon which the decision of posterity will be founded. Without previous acquaintance with either of the parties, we will confess that our sympathies are with the man who has in some degree (and only temporarily, we are confident) impaired both his health and his fortune by working out this discovery. The decision in his favor is made by parties whose prepossessions must have inclined them all the other way.

As an important occurrence of the Living Age, it is appropriate to our name and objects, to publish to the world, in an authentic and convenient shape, what has thus happened in the city of our own residence; and there are many reasons why the whole affair should be compressed into a *single number*. It can thus be more conveniently spread over the face of the whole earth; and it may thus be the means of introducing our journal to thousands who would otherwise never have known it. This last argument will, we are sure, be weighty in the minds of all to whom the growth and development of this enterprise is desirable.

It will be interesting information to many of our readers, that the gentleman whose name appears on the first page of this number, and who is now a member of the bar in Boston, is the same person who some years ago published a very different chapter of his own experience and travels, under the title of *Two Years before the Mast;* a work which we think made a life-long impression upon every one who read it, and which has probably, by turning the attention of many thousands of Americans towards California, hastened, in some degree, the occupation of the solitary shores of the Pacific.

A few pages to the memory of a great man, to whom we have private as well as public obligations, are all that remained to us in this number.

CONTENTS OF No. 201.

WASHINGTON, 27 DEC., 1845.

OF all the Periodical Journals devoted to literature and science which abound in Europe and in this country, this has appeared to me to be the most useful. It contains indeed the exposition only of the current literature of the English language, but this by its immense extent and comprehension includes a portraiture of the human mind in the utmost expansion of the present age.

J. Q. ADAMS.